THE BUILDER

A RECORD OF ARCHITECTURE AND CONSTRUCTION.

VOL. CVII.—No. 3733. AUGUST 21, 1914.

ARCHITECTS AND THE OFFICE OF WORKS.

THE object of popular government is, or should be, to secure the greatest happiness of the greatest number, but in working for that end it frequently happens that the rights of minorities are insufficiently considered and allowed for. This is especially the case when new departures become necessary owing to a crisis, and it seems to us the problem is to keep all outstanding controversies during such periods in a state of *status quo*, so that after the emergency has passed no section of the community feels that it has suffered or lost ground during a period of enforced truce. This has been recognised in dealing with the Home Rule question, and the effects of such an understanding are favourable to the hope of final settlement on lines of mutual consent.

Dealing with smaller matters, though of great interest to architects, the policy proposed by the President of the Royal Institute of British Architects in appealing to all members of the Institute to do what they can to help matters by giving free professional assistance to the Government, by looking after the business of those who have joined the fighting forces, and by contributing to the funds now being raised to allay distress by means of a Committee who will represent all sections of architects, will do much to promote a general unity of aims and policy after the emergency no longer exists, and so ultimate good will arise out of evil.

We have recently seen and read much correspondence on the question of official architecture and its advantages and disadvantages; but this controversy, like so many others, will be kept in the background at the present time if the case of the profession is dealt with in a considerate and understanding way by those in authority.

We are all glad to hear that the Government recognise the necessity of doing everything possible to keep the building industries prosperous at the present time, so that the maximum number of men may be employed, for this is the ultimate object to be aimed at; but there is no reason in doing so that the authorities should make large additions to their existing staff and increase the scope of the work which is gathered into the official net and deducted from private practices. To do so is to create an emergency staff whose claims will have to be considered after the present crisis has passed, with the effect that the staff will probably remain a larger one than would have been the case had war never arisen, and this at a time when the architectural profession is being hard hit by the stoppage—which, we hope, is only a temporary one—of much private work throughout the country.

It would be a poor return to make to the offer which the Institute is to make to the Government on behalf of its members, and were it not for accurate information we have received we should hesitate to believe that a step of this kind is being taken, yet we are assured on reliable authority that it is so, and that the Office of Works is largely increasing its staff in order to deal with the additional work which is to be put in hand.

If the facts are as we have stated, we hope the professional societies will make very strong representations to the Government in order to secure fair treatment of their members.

We are quite sure that the authorities could obtain the best reliable information as to the qualifications of private architects before entrusting them with the design and supervision of additional work which is to be put in hand; we are equally sure that a large number of professional men will give their services freely to the Government for the design of temporary buildings which may be required; but we think the Government on their side should, in justice to architects, do nothing to increase the official staff of the Office of Works.

There is another factor in the question. If we assume that the Government consider that buildings are more economically and effectively designed and supervised by means of a large official staff, they must also recognise that an emergency like the present is not a fit time to carry out a large increase in the sphere of their activity. A step of this nature should be taken—always assuming it is wise to take it—in slack times when the details of organisation can be thought out carefully and met properly. To deal with such matters suddenly and without time for full consideration is to produce bad and extravagant results, and will lead to the selection of large numbers of assistant architects without adequate time to look into and weigh their qualifications. An efficient staff can only be built up slowly by testing every link of the chain, and times of emergency render this impossible.

The most democratic of Governments must be careful how far they advance into the unknown and unexplored field of State Socialism and creates that bureaucracy which has always been alien to the instincts of our race. If Germany is to fail as a great political force it will largely be because she has become over bureaucratised by Prussia, and we have little reason to follow her lead in such matters. The French architect usually seeks and finds a small official post and salary, but the best of our own architects have achieved their greatest distinction through their individual efforts, and those efforts would never have been what they are had their field been more circumscribed.

We do not, however, wish to suggest that the whole question of official *versus* private architects should be fought out now—it cannot be and is not desirable that it should be—nor do we wish to load the scales in one direction or the other. When the time comes there will be much which is worth saying and listening to on either side, and both sides will always receive an impartial hearing in our pages; but to make a forward move which is bound to prejudice the position of architects in private practice at a time like the present is not an act of common fairness, and should meet with emphatic protest in the proper quarters.

Architects should be treated with reason and consideration at a critical time, for we are sure that in common with every section of the community they are willing to bear the burdens and meet the trials laid on them by the times in which we live.

THE BUILDER'S MERCHANT AND THE CRISIS.

WE have had reports from certain quarters to the effect that builders' merchants are increasing the difficulties of contractors and others at the present time by refusing to give customary credits to those dealing with them and by insisting on cash payments. In many cases architects have been asked to issue certificates for unusually small amounts by contractors, who assert that no credit can be obtained from those who supply their goods. In other cases it is alleged that the prices of commodities have been unreasonably enhanced.

We give these statements for what they are worth, and without offering an opinion as to whether such actions are exceptional or whether they represent a general tendency; but, in any case, if avoidable they are regrettable, and means should be taken to ensure the carrying out of business as nearly as possible under normal conditions.

In the case of the Hindu legend, which relates that the world is supported on the back of a tortoise, but gives no detail of the standpoint of the latter, but in business we have to go back to ultimate causes before we can arrive at the solution of any problem, and it is necessary to consider the position

of the builder's merchant and the peculiar difficulties with which he is faced. All business is largely carried on by means of credit, and the restrictions of credit which banks have found necessary to insist on at present, coupled with dear money, must hit the builder's merchant hard. He must also have to consider the position which he is likely to be placed in if there is any difficulty in renewing his stores at existing prices. The war is yet too young to enable us to judge of its results on some of the trades of the country, and, though we feel every indication we have makes for optimism, it is natural that many firms should for the present feel some considerable amount of anxiety. Certain classes of building are for the time being—but only we believe for the time being—stopped, such as the more speculative variety, and we can quite understand that the stoppage of credit in such cases may inflict great hardships on many of the smaller contractors, while at the same time they are understandable in the circumstances of the case.

The same reasoning does not, however, apply to contract work, as the large part of it is paid for at regular intervals, and we should have thought it was in the interests of the builders' merchants to give the usual credits in such cases, though at a higher rate of interest and possibly for shorter periods of time; but the whole question is necessarily intimately bound up with the banking facilities afforded to the builder's merchant, and we hope that the authorities who have done so much to smooth the way for the maintenance of our trade at its normal level will by their action, in conjunction with the banks, work to obtain the greatest good to the great body of people engaged in the building trades by doing their utmost to ensure the working of the usual machinery of credit in a normal way.

Confidence begets confidence, and the lack of it in unexpected quarters begets panic, the results of which are very difficult to deal with, and as, if we take a temperate view of the situation, there is really no reason why the next half-year should not be not only a normal period, but one of good trade, yet, as a crowd can be collected in any street by anyone who stops and looks fixedly in any direction, so a very inconsiderable change in normal conditions may be interpreted as a portent of disaster with which it has no connection because the great majority of people stop to talk, but not to think, for which reason it is the more necessary that those exceptional people who can think logically should also speak clearly and with emphasis.

We do not in the least believe either that as time goes on the price of building commodities should be enhanced. The normal external commerce of the country is being carried on as usual, and probably the security of the seas for our commerce is more evident on the seas than on land, where exaggerated ideas, founded on ignorance of facts, often prevail; but there is one thing which those who sell sea-borne commodities used in building should remember in their own interests—which is that it is better to carry on a large trade, making a moderate return on it, than by putting up prices bring trade to a standstill, only having the satisfaction of carrying on a very small bulk of trade at exorbitant rates.

This will, we hope, be understood and felt by our manufacturers, for the first time for many years relieved from the pressure of foreign rivals. They have their chance now of satisfying customers, so that when normal conditions come once more trade will "follow the flag" for optional reasons and not motives of necessity; it is the difference between building on the sand and the rock, and those who hope to be successful in the future will moderate their demands in the present.

We should, in fact, all work together to keep things moving, and, if we do, when peace comes we shall have our reward in finding we have sown the seeds of permanent prosperity.

NOTES.

The Architects' "War" Committee.

A LARGE Committee has been formed, which represents not only the R.I.B.A., but the Society of Architects and the architects who are not affiliated with any professional society. This Committee will deal with the three matters which have been already discussed at a special meeting of the R.I.B.A. last week, namely, the offer of services to the Government from members of the profession in connection with the design of emergency and other buildings called into being by the necessities of the present crisis; secondly, arranging among members of the profession for the carrying on of the practices of those architects who have volunteered for active service; and, thirdly, the contribution of a sum towards the Prince of Wales' or other relief funds. In connection with the latter, we learn that the Special Committee consider that two funds should be formed—the first to be in the form of a contribution towards the National Fund, and the second a fund for assisting those architects who are through the incidence of the war placed in an unfortunate pecuniary position. We believe the latter fund will appeal to most members of the profession as being peculiarly deserving of their support, since such hardships can best be understood and dealt with by those who have a special knowledge of the difficulties to be met. We hope, however, when the country adjusts itself to the new order of things that prosperity and not the reverse will be the lot of those engaged in the building trades and the arts connected therewith. There must be dislocation which will involve many in difficulties which, we trust, will be of a temporary character only.

The Assessor's Award.

AT the present time there is a disposition—which is particularly noticeable among the younger school of architects—to insist that a public body should have no option as to accepting an assessor's award. We think in many cases this is likely to lead to difficulties which defeat the object that all must wish obtained, namely, the appointment of properly-qualified assessors for every competition. We know that the best assessors occasionally make mistakes and that the results of those mistakes are unfortunate in the interests of architecture, as it may mean that a worse solution of a problem is accepted when a better one is available. All that is really needed is, in our opinion, that the body in question should express their willingness to act on the assessor's award, subject to no valid reason existing for a contrary course, and then all will depend on the assessor having good reasons to give for the course which he has taken. No assessor should, we consider, give an impression of weakness in dealing with a Committee by adopting an apologetic attitude in respect to his award, but should be willing to give clear and logical reasons for the attitude he has taken, and, if he can do this, public bodies will willingly follow his lead. But to assume a Papal attitude of infallibility is frequently to put a needless affront on members of a public body who, after all, are spending their own money, and are entitled to some voice in a matter which concerns themselves. It is only fair to assume that a Committee or Council wish to do the right thing, and are willing to accept competent advice; it is reasonable that if they have doubts they should wish to know the assessor's reasons, and only an incompetent man can have any objection to giving them. The object to be aimed at is to get all bodies instituting competitions to appoint assessors, for which reason we are always sorry to hear of disputes as to the exact amount of authority he should exercise. The right kind of assessor can be trusted to get his own view upheld whether he has absolute or limited authority, while no authority will ensure a good award from an incompetent man.

Pessimism in South Africa.

THE President of the Federated Master Builders of South Africa is reported to have expressed himself strongly as to the lack of unity and cohesion among architects. Uniform conditions of contract were wanted, but there is no central organisation of architects in South Africa to agree on a form of contract. We are told there is more jealousy and petty spite and personal feeling among architects in South Africa than among any other body of men in the world, and until there was some reasonable hope that architects would sink their personal differences and professional ill-feeling it is hopeless to expect a uniform system of contract. The *African Architect* says certain master builders appear to have spoken with great candour—and little pleasantness—of their overlords and directors, the architects. All this is unpleasant reading, but is it all true? The architect of education and artistic tastes, used to the civilisation of Europe, is often weighed and found wanting by the rough tests of life in a colony which is fighting its way to better and more settled conditions of prosperity. Still, South Africa may lay claim to Mr. Herbert Baker, who has not only given us the magnificent design of the new Government buildings at Pretoria, but has been selected to co-operate with Mr. Lutyens in designing the chief buildings of New Delhi. So that the conditions of life in South Africa have not prevented Mr. Baker qualifying himself for the highest rewards open to architects. Therefore we hope the architects of South Africa will show to us in years to come that the pessimism of the master builders is not justified by facts, and that architects in South Africa may, as their colleagues in America, yet produce buildings which will be the admiration of the civilised world.

THE OAKLAND CITY HALL, OAKLAND, CALIFORNIA.

WE illustrate through the courtesy of the *Brickbuilder* the very interesting design for the Oakland City Hall, of which Messrs. Palmer, Hornbostel, & Jones are the architects. The building is what in this country we should term "a skyscraper," though the latest American achievement in this direction would lead to it being described as a "comparatively low building." We think it shows how the unpleasant effect created by enormous height can be mitigated by an extension of the lower stories over a comparatively wide area. Though not as great a success as a piece of design as the New York Municipal Buildings of Messrs. McKim, Mead, & White, it is a well-conceived and logically-designed structure, distinctly dignified, and imposing in its general effect.

The building may be said to be separated into two portions, this difference being expressed in elevation; the lower portion houses the judicial and administrative sections, while the central higher block contains the administrative offices, a scheme which our contemporary says is so natural that one wonders after seeing it why it has not been done before. The treatment of the lower part of the building by a series of arches between pilasters is happy since it gives an appearance of strength to the lower part of the tower, which is felt not to be supported on the latter. The belfry and upper stages of the tower are well treated. The plans which we give are excellent examples of their kind, and give evidence of much careful thought. On the ground floor the building is accessible from three fronts, a monumental staircase being planned up to the second floor, on which the courts are situated. The fire house in the rear is both accessible from the rest of the building and separated therefrom; the detention cells are placed high up, the building being provided with its own lifts. As an instance of a very large building planned without lighting wells we consider the design unusually interesting.

The Oakland City Hall, Oakland, California.

Messrs. Palmer, Hornboste', & Jones, Architects.

(From the *Brickbuilder*, Boston, Mass.)

BUILDING REGULATIONS FOR SECONDARY SCHOOLS.

THE new regulations of the Board of Education, which replace those issued in 1907, contain nothing which is new or startling in character, but a comparison of the two documents shows that very much more detail is given in that now issued, and this detail will be of value and assistance to those who have to plan Secondary Schools.

The Board of Education has shown of late years a much greater flexibility of judgment as to what may be described as good planning, a flexibility which has led to the abandonment of the central hall fetish in elementary school planning, and has made possible the Derbyshire type of school, which, we think, will become the prototype of all elementary schools where space renders its adoption feasible. Secondary School planning has never been so stereotyped as that of Primary Schools, and we think the Department would always willingly consider any fresh type of plan so long as it was recommended by obvious advantages.

We give below much of the matter contained in Chapters IV. and V. of the document before us, the first of which is entitled "Details of Various Parts of the Building," and the second, "Boarding-Houses," as we think the full information here given will be a valuable guide to many of our readers.

Details of Various Parts of the Building.

Entrances (as before).

Staircases (as before).

Corridors, which should be for access only, should be from 6 ft. to 8 ft. wide, according to the size of the school, and well lighted.

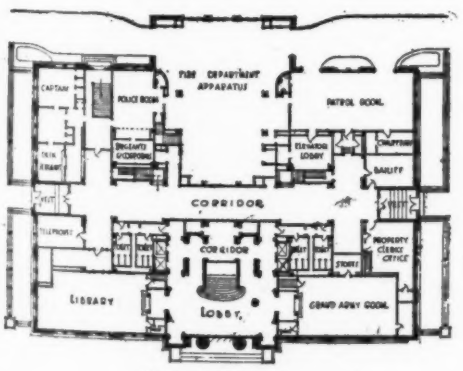
The assembly hall should have a floor space of at least 6 sq. ft. for each pupil for whom the school is to provide accommodation, and it is preferable that, if the school be for less than 150, a floor space of 8 sq. ft. per pupil should be provided.

It is desirable to place the hall so that noise in it will not disturb the work in the classrooms. For this reason, as well as for ventilation and freedom from dust, the classrooms should not open directly from it. The hall may, therefore, be altogether or partly detached from the main building. It must be fully lighted, warmed, and ventilated.

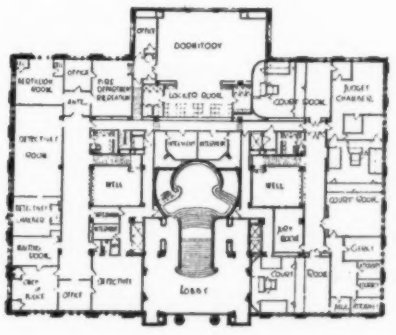
If it is not possible to provide a room for specific use as a gymnasium, the hall must be made suitable for the purpose of physical training. In this case it should be completely separated from the classrooms, and be so placed that it does not serve as a passageway from one part of the building to another; and its construction with regard to ventilation, lighting, flooring, and wall space should approximate as closely as possible to that of a gymnasium.

If no hall is provided, in addition to a gymnasium, it is desirable to arrange two or three adjacent classrooms with movable partitions, so that they can be thrown into one for purposes of assembly.

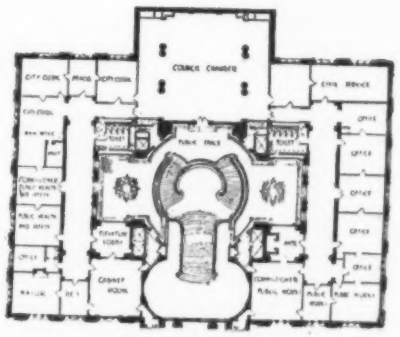
Classrooms should be provided at the rate of at least four for every 100 pupils. They should not be designed for more than thirty, or less than fifteen, pupils. It is desirable to have one or more division rooms in addition to the regular classrooms, to take from ten to fifteen



Ground Floor Plan.



First Floor Plan.

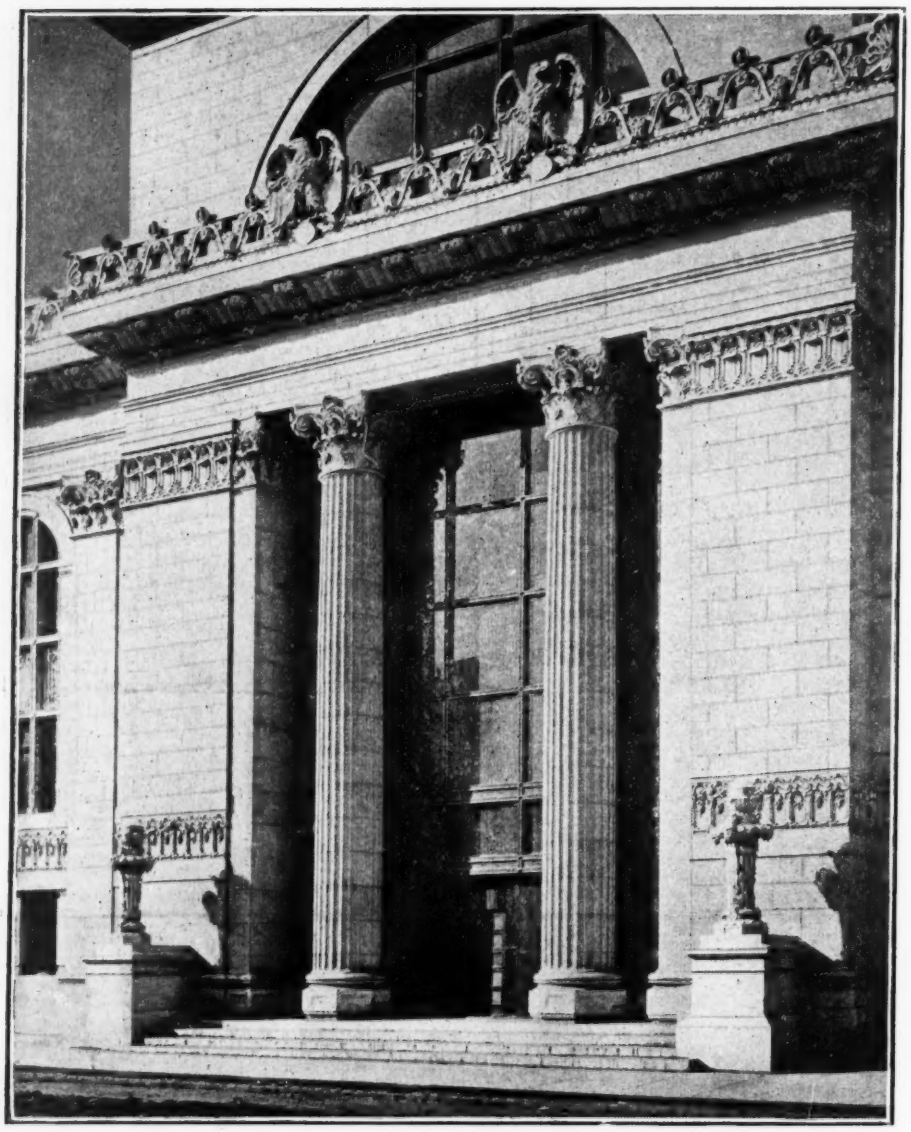


Second Floor Plan.

The Oakland City Hall, Oakland, California.

Messrs. Palmer, Hornbostel, & Jones, Architects.

(From the *Brickbuilder*, Boston, Mass.)



The Oakland City Hall, Oakland, California: Detail of Washington-Street Entrance.

Messrs. Palmer, Hornbostel, & Jones, Architects. (*See page* 191.)

(From the *Brickbuilder*, Boston, Mass.)

pupils each. A lecture-room, if suitably arranged, may be counted as the equivalent of one classroom.

The classrooms must not be passage-rooms from one room or part of the building to another, or from the playground or yard to any room used for teaching or to the hall. The rooms and passages should be so arranged that every room can be cleared easily and without disturbing any other room.

The classrooms should be designed to take single desks, and should have a gangway of not less than 18 in. between the rows and between the desks and the wall on each side, a space of 1 ft. between the last row of desks and the back wall, and a clear space for the teacher extending the full width of the room of not less than 7 ft. 6 in. between the front row of desks and the wall. (Each desk may be reckoned as occupying a space of about 3 ft. by 2 ft.)

It will be found that these dimensions provide a floor area of 16 to 18 sq. ft. per head, according to the size of the class, but in no case must the floor area be less than 16 sq. ft. per head.

The proportions of classrooms should be such as to allow a good arrangement of the seats. Long, narrow rooms are to be avoided.

If there is a fireplace, it should be placed at the teacher's end of the room in the corner away from the door.

The height should not be less than 12 ft. if the room has a flat ceiling. If it is ceiled at the collar beam, the height should be 10 ft. to the wall plate and 13 ft. to the ceiling. The ceiling should extend over at least half the area of the room. In no case may a classroom be left open to the ridge.

In classrooms arranged with corresponding windows on opposite sides these heights may be diminished by 1 ft., but in such cases the Board will have to be satisfied of the adequacy of the cross ventilation.

Lighting of classrooms much as before.

A school of 150 pupils over twelve years of age will require at least one laboratory, but in a school of this size for boys and girls two laboratories will, as a rule, be necessary. A school of 200 pupils or more over twelve years of age will require two full-sized laboratories. In schools of 300 pupils or more three laboratories may be necessary.

Before the exact dimensions for a laboratory are decided on, the arrangement of benches, fittings, drainage, and flues for fume closets and combustion hoods should be determined, and should be shown on the plans, but in no case should there be less than 30 sq. ft. per pupil.

It is desirable that the laboratory should be large enough to take a full class in order to avoid the need for division.

The following dimensions will serve as a guide in planning a laboratory.—Benchroom: Space for each pupil, not less than 3 ft. 6 in. by 2 ft. 3 in.; where pupils work opposite each other the double bench may be 4 ft. wide. Gangways: For pupils working back to back, 4 ft.; for pupils not working back to back, 3 ft. Benches should be clear of shelves.

It is very useful to have side bench accommodation not normally used by pupils, but available for special purposes. A demonstration table should be provided.

Gas and water should be laid on for benches and demonstration table. The pipes should be accessible. Sinks should be provided.

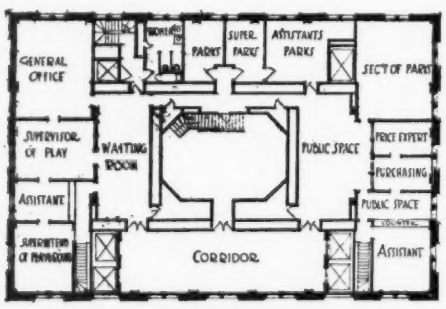
Where work of an advanced character is done it will often be necessary, and generally desirable, to provide, in addition to the laboratories for elementary work, one or more smaller additional rooms simply furnished for advanced work.

All the science-rooms should if possible be close together and conveniently accessible from one another.

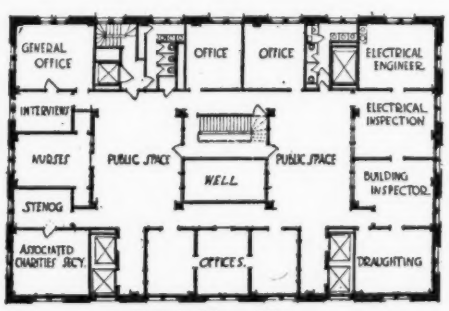
A separate balance-room for the balances ordinarily in use is not necessary. When such a room is provided there is usually a good deal of overcrowding, and supervision, which is very necessary for beginners learning to weigh, is rendered difficult. Adequate provision can be made in the elementary laboratory, but balance cases of a simple kind will be necessary. In the few schools in which really delicate balances are required it will be found desirable to keep them in a small room apart from the rest.

In larger schools it is generally found advantageous to have a preparation room. In all schools it is necessary to have ample space for storage of apparatus and materials both in the laboratories themselves and in an adjacent room or rooms. This need is too often forgotten.

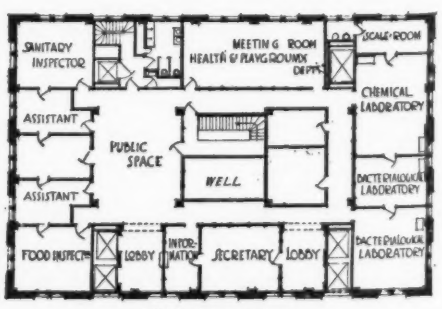
In many schools it has been found easy to provide a separate dark room. This room may conveniently be fitted for photographic purposes.



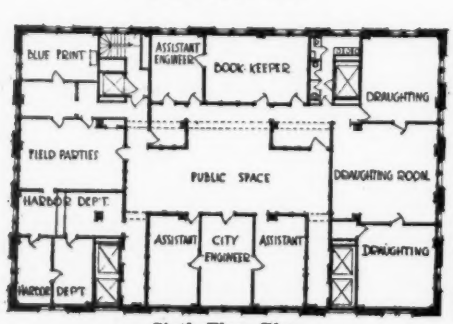
Third Floor Plan.



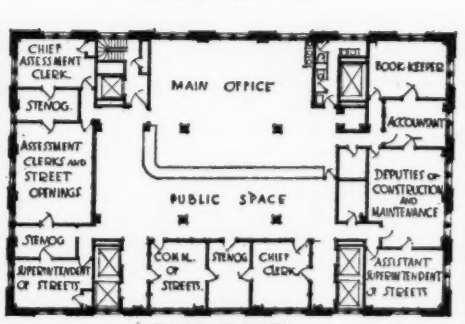
Fourth Floor Plan.



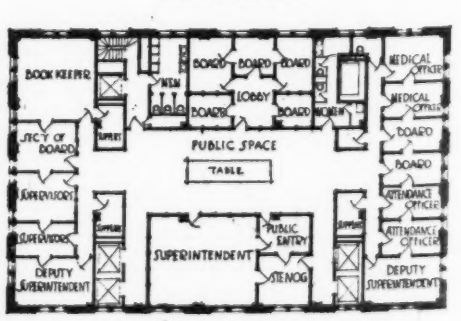
Fifth Floor Plan.



Sixth Floor Plan.



Eighth Floor Plan.



Tenth Floor Plan.

The Oakland City Hall, Oakland, California.

Messrs. Palmer, Hornbostel, & Jones, Architects. (*See page* 191.)

(From the *Brickbuilder*, Boston, Mass.)

Even where a dark room exists it will often be desirable that arrangements should be made for partially darkening a laboratory when necessary for practical work in optics.

A botanical laboratory need not differ in size from an ordinary laboratory for elementary chemical and physical work, but it should have an aspect that will secure plenty of sunlight for growing plants.

It will be found useful to provide a narrow bench under the windows about 2 ft. wide for physiological experiments and such other work as requires a specially good light.

The benches may be plain tables providing 3 ft. 6 in. by 2 ft. or 2 ft. 6 in. for each working place fitted with gas.

Sinks should be provided.

A demonstration table fitted with water and gas should be provided.

Wall space should be utilised for reagents and apparatus. It may be convenient to have one bench 4 ft. long with reagent shelves above it.

Greenhouse accommodation is desirable, and some arrangement for the germination of seeds.

In schools of 250 and over it is useful to provide one or more lecture-rooms, or a classroom fitted with a demonstration table, so that it may be used for lecture purposes.

In smaller schools lecture-rooms may be omitted.

A lecture-room should ordinarily accommodate thirty pupils, the last three or four rows of desks being raised. A large demonstration table should be provided and the room made capable of being easily darkened for lantern work. In big schools a larger room may be provided, constructed if desired on the principle of a theatre with rising seats. There must be a floor space of not less than 14 sq. ft. per pupil for the first thirty pupils, and 12 sq. ft. for each pupil above that number.

Windows must not be placed facing either the teacher or the pupils.

A room for teaching drawing should provide not less than 30 sq. ft. per pupil. A suitably shaped room would be 25 ft. by 30 ft. In schools of over 300 it is desirable to provide a supplementary room for crafts and modelling, or separate rooms for advanced and elementary work.

The room should be lighted by a large window to the north, as far as possible in one length, not broken up by wide piers. The top should be carried close up to the ceiling. Any other windows should be fitted with light-excluding blinds.

The room should be provided with a sink, and have water laid on.

In schools for 100 or less the hall if suitably lighted may be used for drawing.

The room provided for housewifery, laundry, and cookery classes should allow 30 sq. ft. of clear floor space for each pupil under instruction at any one time. In addition, space is required for fixed apparatus, which may be roughly reckoned at about 5 sq. ft. per head.

A suitable number of pupils for a housecraft class is fifteen to eighteen. In no case should more than twenty be taken together.

A north aspect is desirable. Special arrangements should be made for ventilating, and where necessary for warming the room.

The room should be so placed that smells from cooking will not penetrate into other parts of the school. A larder should be provided, the window of which should face north or east.

It is convenient to have two cooking ranges, one open and the other closed, to one of which a back boiler should be attached.

Where gas is available a gas stove, provided with a flue pipe to carry off fumes from the oven, should be fixed in a convenient position accessible on at least three sides. Where a gas hot plate is provided, it may be separated from the oven, and should be set at a height of about 2 ft. 6 in. from the ground. In cases where electricity can be used with economy it may be desirable to introduce an electric stove.

At least one sink, not less than 3 ft. in length, with draining boards and hot and cold water laid on, should be placed in full view of the teacher and pupils; also a slop sink 12 in. deep.

Fixed furniture is undesirable. Moveable tables providing 2 ft. per pupil, with two additional tables, are needed. A convenient size for the tables is 6 ft. by 2 ft. 6 in. wide by 2 ft. 6 in. high. In selecting them regard should be paid to their convenience for needlework purposes.

For laundry work a copper holding from 12 to 18 gallons is essential. There should be a supply tap above the copper, and also a tap for emptying it.

Storage accommodation, such as shelves, racks, and cupboards, is required. Suitable seats should be provided.

In every school there should be, and in every boarding school with more than twenty boarders there must be, a handicraft-room, which should provide for the instruction at one time of not less than fifteen nor more than thirty pupils. The latter number will require about 900 sq. ft. of floor area. There should be a space of at least 4 ft. in width between benches, and a clear space round every bench for woodworking. A rack for tools should be provided for every bench.

In its plan, arrangements, lighting, and ventilation a room for teaching handicraft should be modelled on a workshop rather than on a school. Where it does not form part of the main building of the school its construction may be very simple. The roof may be either of lean-to or other ordinary form, according to circumstances. Its height at the windows in front of the benches need not be more than 9 ft. A flat ceiling is not, as a rule, necessary. The lighting and ventilation must be ample. The room must be warmed, but need not be so warm as an ordinary classroom.

The floor should be of wood blocks or some other material that will not damage tools dropped upon it. Provision for blackboard teaching should be made.

If a kindergarten or preparatory class is attached to a school, it should be taught in a light, airy room or rooms, facing south or south-east, and so arranged as to provide an easy way into the open air. The room should have a fireplace.

Wall blackboards for the use of the children and ample cupboard accommodation should be provided.

The class should have its own lavatory, offices, and cloak-room accommodation, arranged suitably for both girls and boys.

Where the preparatory department is large a separate block of buildings is often, and in boys' schools a separate playground is always, desirable.

The headmaster's or headmistress's room should be placed conveniently near the entrance, and be provided with a lavatory and closet. Some provision for persons waiting for interviews is desirable. In schools for both boys and girls under a headmaster, a separate room is needed for the senior assistant mistress, as well as separate common-rooms for the staff of each sex.

It is advisable to place these rooms in a position facilitating supervision over the playgrounds, access to lavatories, etc.

Adequate cloak-rooms, lavatories, and closets should be provided in connection with these rooms, apart from those provided for the pupils. A staff of three to four require two basins and one closet; a staff of six to ten require three basins and two closets; a staff of ten to fifteen require four basins and three closets.

There should be sufficient space for storage, which should be separate and convenient for various purposes; for instance, for books and stationery, or for games material and similar properties. Storage space can be most economically provided by designing cupboards as part of the buildings.

In every school a careful estimate should be made of the number of day pupils who may be expected to dine at the school or bring their own meals, and dining accommodation should be provided accordingly.

Not less than 2 ft. should be allowed for every pupil at the table, and not less than 10 sq. ft. of floor area.

The kitchen and necessary offices, which should include a larder and pantry, should be adjacent to the dining-hall, with separate entrance, and so placed that the smell of cooking will not be likely to enter the school.

In every school it is essential that there should be a room furnished for use as a library, in which pupils can have facilities for consulting and working from books of reference. This room may also be used as a Sixth-Form room.

In every school in which instrumental music is taught it is desirable to have a music classroom unless there is a lecture or other room that can be conveniently used. Practice-rooms should be about 8 ft. by 6 ft. 6 in., divided by sound-proof partitions, and with sound-proof doors. Music and practice-rooms if provided should be as much isolated as is practicable.

A suitable size for a gymnasium is 60 ft. by 30 ft. In no case should it be less than 50 ft. by 25 ft.

It should be constructed with a flat ceiling 16 ft. from the floor and lighted by a continuous range of windows down each side. These windows should have the underside of the sills not less than 9 ft. from the floor, and be hung on centres to swing open. At least one end wall should be left blank.

The entrance for the ordinary use of pupils should be through a lobby and changing-room, so that outdoor boots and shoes are not brought into the gymnasium.

The floor should be resilient, and to a certain degree resonant. Solid floors are, therefore, unsuitable. Narrow boards running across the room laid on joists will be found the most suitable.

Cloak-rooms much as before.

In large schools it is desirable to provide changing-rooms, which should be fitted with fixed seats, pegs, lockers, and boot racks. Provision for foot and spray baths may be made. In small day schools accommodation for changing may be provided in the cloak-room.

Sections 109, 110, and 111 above apply also to lavatories except that the lavatory may serve as access to the closets. Lavatory basins should be provided on the following scale:—Boys: One for every twenty pupils up to 100 and one for each succeeding twenty-five, 18 in. being allowed to a basin. Girls: One for every ten pupils up to 100 and one for each succeeding twenty, 18 in. being allowed to a basin.

A lock-up slop sink, water tap, and cupboard for use by the caretaker are desirable.

Closets much as before.

Boarding-Houses.

It is necessary that a boarding school should provide ample space for games and recreation. Where the school is only for boarders, the freedom of choice as regards position should make it possible to secure this without undue cost. When boarding-houses are attached to a day school, the position of which has to be governed by the need of easy access, more difficulty may be experienced, but questions of area, suitable aspect, soil, and general hygienic considerations must be carefully considered and suitably met.

Suitable and adequate accommodation should be provided for resident members of the staff.

Sleeping rooms for the pupils may be provided either in dormitories or in cubicles.

Dormitories should contain not less than three beds. There should be a space of at least 3 ft. between beds. In girls' schools cubicles for all girls over twelve years of age must be curtained or partitioned.

A floor area of not less than 65 sq. ft. and a cubic space of 700 cubic ft. must be provided for each occupant. Ventilation must be adequate, and it is very desirable that a through current of air should be provided by arranging the windows on opposite sides of the room. Cubicles if formed out of a dormitory by partitions not carried up to the ceiling should provide the area required above. Each cubicle must have its own window. If the partitions are carried right up, not less than 100 sq. ft. floor area will be required.

Closet accommodation for night use must be provided within reasonable access of each dormitory.

The rooms for matron and staff should be so placed as to provide for easy supervision of the dormitories.

An aspect that allows the sun to enter the rooms freely should be chosen, south or south-east being preferable.

All dormitories must have alternative means of escape for use in case of fire. The provision of chemical fire extinguishers is not advisable.

The washing arrangements may consist of either ordinary hand basins in the dormitories, or, in the case of boys' schools, lavatories placed conveniently near. In the latter case each pupil should be provided with a small rack and towel rail. Fixed lavatory basins should not be fitted in sleeping-rooms.

There should be baths at the rate of two for every twenty boarders, with separate bathroom provision for the staff. A good plan for daily use is to have a room with a floor of asphalt, lead, or other impervious material, with taps and movable baths, or shower baths. It should be noted that two shower baths divided by waterproof curtains or partitions will occupy the space of one slipper bath, and can also be used more expeditiously.

A downstair changing-room and a separate lavatory for day use in connection with it should be provided.

The number of closets required for day use is one for every seven boarders.

Every boarding school or house must have adequate day room accommodation for use during out-of-school hours. These rooms should provide not less than 20 sq. ft. for each boarder. Lockers or other places in which pupils can keep books and private property should be supplied.

There should be a separate sitting-room, or bedroom furnished as a sitting-room, for each member of the resident staff; also a matron's sitting-room and linen-room.

In every boarding school there must be a sick-room, properly isolated. In a sickroom the beds must be free of the walls. There should be a space of not less than 6 ft. between beds, and, if possible, a window between every two beds, the windows being opposite each other. All internal angles of walls, floors, and ceilings should be rounded.

There must be in a sickroom 1,000 cubic ft. for each bed.

Water-closets and bathroom, with hospital bath, should be provided, with aerial disconnection from the sickroom. In boarding schools of more than fifty boarders provision for infectious cases should be made in a separate building as far from the main building as can conveniently be arranged.

A room for the nurse should be provided, adjoining the sickroom.

The headmaster's house, if any, should be planned as a private residence, with accommodation for a family, and, especially in the case of a boarding school, for the entertainment of visitors. It should be entirely separate from the accommodation for boarders. For the headmistress in a girls' school proper and self-contained apartments with reception-rooms should be provided.

The above extracts contain what is new in the 1914 Regulations, and have, we consider, been prepared carefully and thoroughly for the use of architects and others concerned.

GENERAL NEWS.

Professional Announcement.

Messrs. Coales & Johnson, architects and surveyors, Bank-chambers, Market Harborough, inform us that the partnership hitherto existing between them as architects, engineers, and surveyors will be dissolved by mutual consent as from September 30 next. Mr. H. G. Coales will continue his public appointment under the Urban District Council, and will for the present practise at the Council offices, and Mr. H. W. Johnson will continue to practise as architect and surveyor at Bank-chambers.

Cornwall County Surveyorship.

Mr. L. D. Thompson, Deputy County Surveyor for Lancashire, has been appointed County Surveyor for Cornwall in succession to Mr. A. E. Brookes, who is going to Durham.

Road Board: Manager Appointed.

We understand that the Road Board have made some changes in the organisation of their staff, and Mr. H. P. Maybury, who became Chief Engineer to the Board in November last, has been appointed to a new post with the title of "Manager and Engineer."

Museums and Picture Galleries.

After being closed to the public for ten weeks the London Museum has been reopened. At the British Museum the precaution is still taken of admitting women by ticket. The Tate Gallery is closed to the public generally, but

visitors recommended by persons in authority are admitted.

To Facilitate Employment.

The Metropolitan Asylums Board, at an emergency meeting held on the 17th inst. to take the measures necessary in consequence of the war, decided, in order to facilitate employment during the war, to proceed forthwith with the execution of large building works to the value of nearly £200,000, for which tenders have already been taken, and to expedite the progress of other building schemes in hand.

Belgian Relief Fund.

The Belgian Minister in London has opened a fund to relieve the distressed families of the Belgian soldiers now in the field, who are gallantly defending their country against an unprovoked attack, and to afford help to the sick and wounded. Contributions may be sent to the Belgian Legation, 15, West Halkin-street, S.W., or to M. Louis Godchaux, President of the Belgian Chamber of Commerce in London, 155, Fenchurch-street, E.C., marked "Belgian Relief Fund."

Acceleration of Building Works.

The Board of Education have been requested by the Central Advisory Committee for the Prevention and Relief of Distress, which has been established at the Local Government Board under the Chairmanship of Mr. Herbert Samuel, to call the attention of local education authorities to the desirability of making preparation to carry out as much building work as possible in areas where an exceptional amount of unemployment is anticipated. The Board are confident that the authority will see the importance of making arrangements which will enable them to provide employment quickly if and when an emergency arises, so that the demands on the funds available for the relief of distress may be kept down. The Board will use their best endeavours to accelerate the consideration of plans submitted by or through local education authorities for the erection of new school buildings, or the improvement of existing school buildings, and have instructed their officers to assist the authority and their architect by every means in their power. The Board are assured by the Local Government Board that so far as they are concerned they will co-operate in this matter by accelerating as far as possible the consideration of applications for sanction to loans and of questions of sanitation, which fall particularly within their province.

British Manufacturers and the War.

The Board of Trade are undertaking a campaign to assist and supplement the efforts of British manufacturers and traders to take advantage of the present opportunity to establish themselves in foreign and colonial markets in branches of trade which have hitherto been largely in the hands of their German, Austrian, or Hungarian rivals. The Board have issued a Circular and Memoranda which represent the first instalment of a series of similar monographs on special groups of trades which the Commercial Intelligence Branch of the Board of Trade are issuing in pursuance of this scheme to British Chambers of Commerce, trade associations, and also direct to a large number of British manufacturers and merchants. The Director of the Commercial Intelligence Branch, whose offices are in Basinghall-street, E.C., will be ready to receive and answer personal and written inquiries for further information with regard to particular trades and markets.

Beaux-Arts Atelier.

The Beaux-Arts Committee have decided that the work of the Atelier should proceed as usual. The Esquisse for the first monthly competition will be held on September 5 and 6, in accordance with the programme, and the first Exhibition and criticism of the session will be held on October 7, as previously arranged.

THE BUILDING TRADE AND THE PRESENT CRISIS.

WE have received the following interesting letters on the present crisis :—

SIR,—In my opinion the best way to promote confidence in the building trade during the present crisis is to revert to the conditions that obtained before the outbreak of the war.

The fundamental principle is the re-establishment of credit.

The Chancellor of the Exchequer stated in the House of Commons on August 7 that :—

"The Government came to the assistance of banks at a time of great crisis on the expressed condition that they gave all the help they could to the trades of the country."

A considerable amount of the building work has been in the first instance financed by the bankers, and, in view of the Chancellor's statement, it seems to me that the bankers should continue this practice. It is not sufficient to continue any arrangement they made prior to the war, which I understand they are doing, but they should be prepared to advance on new undertakings.

It is within my knowledge that some bankers are prepared to continue their former custom, but, on the other hand, I have been informed, on excellent authority, that certain buildings are being held back because of the bankers' disinclination to make the necessary advance, which, of course, must retard trade. No one expects bankers to advance on indifferent security, but where the security is good and the margin of advance sufficient it would do much to restore confidence if the bankers reverted to their previous practice, which, I think, falls within the expressed condition laid down by the Chancellor of the Exchequer in helping the trades of the country, of which the building and allied trades form an important part.

The next step to restore confidence is with the merchants.

I am fully aware that a large number of merchants are making no difference either in their prices or their terms, and are adhering to their usual conditions of trade. This is true patriotism and loyalty, and I am sure well appreciated by all concerned.

On the other hand, certain merchants are increasing their prices most unwarrantably, demanding cash with order in some cases, and in others requiring cash for goods only just delivered before sending in further supplies, and this to builders who have promptly and regularly paid their accounts on the usual pay days. This is not patriotic or helpful in restoring confidence, and I think these merchants will be advised to, wherever it is possible, revert to normal prices and terms.

Although I have the honour of being the President of the Institute of Builders, I am writing this in my private capacity, but I am convinced from the many cases that have come under my notice that the members of the Institute would be prepared to support my views.

F. G. RICE.

SIR,—I am of opinion that as soon as the present financial disturbance settles down, provided that our Fleet continues to rule the seas and provided also that our manufacturers and traders rise to the occasion, the result should be that the very large export business hitherto carried on between the Continent and the rest of the world (including our own country) will speedily run into British trade channels, which must inevitably result in an immense boom in the nation's trade as a whole and in the building trade in particular.

The war is likely to be very prolonged and arduous, and, while every nerve in the country should be strained to bring about a successful termination of the struggle, it is almost as important that the effort of keeping our commercial end up at home should not be in the least relaxed. I see no reason whatever for pessimism at the present moment.

FREDK. HIGGS.

SIR,—I do not think there will be any difficulty in keeping things going in a normal condition during the coming winter months if we are able to get satisfactory supplies of material; but there are indications that there may be difficulties in this direction, especially in regard to timber and lead, and builders may be forced to seek some consideration from architects and clients in this respect.

HENRY HOLLOWAY.

THE GOVERNMENT AND THE BUILDING TRADE.

SIR,—Your leading article last week, which so thoroughly reviews the probable result the war will have on the building trade, makes it interesting to recall the effect that the Franco-Prussian War of 1870 had upon the timber trade.

At that time the Baltic ports were not all closed, whereas now they are. Only the German ports were closed in 1870, and the prices of timber went up with a tremendous leap, but came down after two months' time to quite a normal figure, and prices did not again advance. The scarcity of European timber was counterbalanced by the importation of more American spruce and pitch-pine. Your readers who live in Lancashire know that good spruce is quite as useful for building as white deal, and architects would do well to place an alternative clause in their specifications for best quality spruce to be used, because we cannot expect to be taking any timber from Sweden or Finland for some months, although it is possible that the fortunes of war might clear the way in less than a month.

Your remark that we may have a practical illustration of a tariff against foreign-made articles will certainly be shown.

I can imagine that if the building trade develops the price of cement will bound upwards, so will iron, steel, and glass, but I can promise your readers that my cement waterproofing material will not advance in price, although the Continental competition has entirely ceased, probably as much from patriotic reasons as because of difficulty in obtaining supplies.

My travellers have reported this week that builders are refusing to sign contracts because they do not know what is going to happen to the price of materials, and they find some of the biggest builders are at a standstill. Other merchants are keeping their travellers at home.

Timber has advanced in a most erratic manner. The King's Lynn merchants charge 10 per cent. increase only, while I see in the *Timber Trades Journal* that at Hull they have put the price up by so much as £2 per standard, and that many of the "post" orders have been returned with the intimation of the increase in price. Personally I think it is a mistake to put the price up. Although many of the Baltic stocks have not arrived, still the Archangel stocks certainly will arrive. My advice to architects is, if they find the prices unduly raised, to specify pitch-pine for the downstairs joists (there is a very cheap pitch-pine called Rio Pitch-Pine which sometimes is cheaper than deal), and for upstairs to use spruce, which is a very good wood if it is kept free from damp.

J. H. KERNER-GREENWOOD.

BUILDING DEVELOPMENTS IN LONDON.—IV.*

How far the building development of London will be affected by the European War remains to be seen. At present the difficulties are mainly those of supplies, which have been intermittent since the railways and other means of transport have been turned to military purposes. Some architects have volunteered, and offices in Gray's Inn and elsewhere are only partially occupied; while the squares present an unusually martial appearance. Still, building operations during the week have been proceeding briskly compared with the state of affairs up till the end of July, and the full number of hands at work give the various jobs every appearance of prosperity.

Before referring to the building work in progress in Westminster and the considerable activity on the southern side of the Thames, we propose to mention some of the operations beyond the radius of the City and West-end, already traversed. Starting from the east and following, roughly, the course of the Regent's Canal, there is much evidence of development, and, though the following particulars do not cover the whole of the ground, they will indicate the kind of work going on at present.

The Port of London Authority is not only concerned with the building of new offices near the Tower, but is engaged in a vast amount of constructional work in the docks. This extensive development of the Port is estimated to cost about £14,000,000, and the first part of the programme, representing about £4,000,000, is being carried out now. To a large extent it is of engineering significance, but various building contracts are involved in the provision of pumping-stations, warehouses, and accommodation for the thousands of men employed. The plans are in the hands of Mr. C. R. S. Kirkpatrick, the Chief Engineer to the Authority.

The preparation of the Shadwell Fish Market site as a King Edward Memorial Park is involving a certain amount of constructional

* Continued from page 181.

work in connection with a storm-water outlet, the embankment wall, etc., on which Sir Alexander Rendel is engaged, with Mr. Edwin L. Lutyens, A.R.A., as Hon. Consulting Architect. Extensions to the London Hospital have just been begun from the designs of Mr. J. S. Oatley, with Mr. F. G. Minter as general contractor. At West Ham a school for the local Education Committee is being built by Mr. W. J. Maddison from the designs of Mr. William Jacques, A.R.I.B.A. In Back Church-lane, Whitechapel, a new factory for the Co-operative Wholesale Society is in progress from the plans of Mr. F. E. L. Harris, A.R.I.B.A. A generating-station is being erected in Hackney by Messrs. Rice & Son, under the direction of Messrs. Gordon & Gunton. A large grand stand for the Woolwich Arsenal Football Club is being erected at Highbury from the plans of Mr. A. Leitch, the general contractors being Messrs. Humphreys, Ltd. Messrs. John Garlick, Ltd., are carrying out alterations and additions to the Royal Soldiers' Daughters' Home, Hampstead, under the direction of Messrs. Spalding & Myers. A site has been cleared at the corner of St. John-street and Whiskin-street, Clerkenwell, for new buildings to be planned by Mr. W. Campbell Jones, F.R.I.B.A., and within a stone's throw, in Rosebery-avenue, will be built first the temporary offices of the Metropolitan Water Board and then the new central offices, for which the General Purposes Committee have allowed an expenditure of £100,000. The design of Mr. H. Austen Hall, F.R.I.B.A., successful in the recent competition, is in the hands of Mr. Hugh Watkins, who will prepare the necessary bills of quantities. A lesser municipal work in the neighbourhood will be the new offices for the St. Pancras Borough Council, designs for which have just been invited from selected architects.

(*To be continued.*)

WAR POLICY OF BIRMINGHAM EMPLOYERS.

MESSRS. W. & T. AVERY, LTD., Soho Foundry, Birmingham, in response to a letter from the Mayor of Birmingham, asking for donations to the Prince of Wales' National Relief Fund, and requesting that the leading firms retain as many employees as is possible in order to alleviate distress resulting from unemployment, sent the following letter to the Mayor:—

"DEAR SIR,—We have pleasure in enclosing herewith our cheque for £250, as our first donation to the Prince of Wales' National Relief Fund, and shall be glad if you will have this forwarded to Buckingham Palace. They have already approached us direct, but we prefer to send a cheque to you, as our works are in your municipality.

All our employees who have joined the forces we are making arrangements to pay the difference between their field pay and the average of their general earnings here, and are taking immediate steps to get into touch with the men, so that they can advise us to whom they wish this money to be paid over.

We are asking our people who still remain in work here to make a weekly subscription to the National Relief Fund, and the money derived from this source will be sent to you in due course. We shall certainly keep these works going as long as it is possible for us to do so, and our policy will be to employ as many workpeople as possible, reducing the time of labour rather than reducing the number of workers.—Yours faithfully,

W. & T. AVERY, LTD.
GILBERT C. VYLE, Managing Director."

[**** The following local firms have done, and their policy, we are informed, will be to continue to do, all that is possible in the circumstances to place the public interest before their own:—

Messrs. W. & T. Avery, Ltd., Mitchells & Butlers, Ltd., Chance Bros. & Co., Tangyes, Ltd., Muntz Metal Company, Ltd., Birmingham and Midland Tramways Joint Committee, and about a dozen others.—ED.]

THE PRIVATE CITIZEN AND THE WAR.

UNDER this title Mr. L. G. Chiozza Money, M.P., contributes an article to the *Westminster Gazette*, from which we take the following:—

"We are almost in danger of forgetting that for the most of us the chief duty of the moment is to go on with our business. It is impossible for the enemy to ruin our business; it is quite possible, however, for the nation to bring a great deal of unnecessary trouble upon itself through the action of each individual in cutting down every sort and kind of activity and trade in a spasm of over-cautiousness. It is really necessary to point out that if every man-Jack of us ceases to buy hats, clothes, and boots, it will not be well for the people who make these things for us, and that it scarcely atones for driving a man out of work to subscribe to a patriotic fund. As to the general business position, if every man in the country through fear acts as though he expects business to come to an end, business will come to an end. If everyone ceases to buy, there will be no selling. If every joint-stock company decides to withhold its dividends, there will be no profits to spend, and each company will in effect help to frustrate business. If we all become misers, production and commerce will shrink all round, not because of the conditions of the war, but because of the unfortunate condition of our own minds. If writers in the Press and certain politicians will keep on saying that millions of people will soon be out of work, they will produce the fulfilment of their own prophecy by breeding fears. The great thing at this hour is to see quite plainly that the dependence of production, and therefore of trade at large, upon a guaranteed supply of sea-borne materials, and the prosecution of an export and shipping trade to pay for imports, is secure if our shores are secure, and that the greater part of our export trade and the indispensable part of our import trade are conducted in peace with countries out of Europe, and may be not only maintained but possibly increased in time of war. Unless, therefore, there has been a gigantic miscalculation with regard to our sea forces, we can, if the ordinary citizen will go on with his business and leave war to the soldiers and sailors, vigorously prosecute our commerce and the home production and trade which hangs upon it."

LAW REPORT.

(Before Mr. A. E. GILL at the Tower Bridge Police-court on July 31.)

Application of the London Building Act, 1894, to the London County Council's Elementary Schools:

Daubney (District Surveyor) *v.* Akers & Co., Ltd.

THE District Surveyor in this case summoned the contractors for not having given him the usual notice. He had been in communication with them and the London County Council from January to June, 1914, urging them to give notice, but without result. The London County Council defended the case on behalf of the contractors, whom they had instructed not to give notice.

Mr. Gill's decision was as follows:—

The defendants are contractors carrying out certain building work for the London County Council as the Education Authority for London at their school in Southwark Park-road.

It is admitted that no notice has been served upon the complainant, who is the Surveyor for the district in which the school is situate.

It has been proved or admitted that the work is being done upon building "according to plans which are, under regulations relating to the payment of grants, required to be, and have been, approved by the Board of Education" within the meaning of sect. 3 of the Education (Administrative Provisions) Act, 1911.

Under that Act "any provisions in any local Act dealing with the construction of new buildings" do not apply "in the case of any new buildings" so approved.

If, therefore, the buildings in question in this case are "new buildings," the defendants are under that Act exempt from serving a building notice.

The work in question is of a twofold character.

It consists of:—

(1) Certain alterations, which I do not think it necessary to describe in detail made to an old building, namely, the infants' department. As altered it appears in the plan A put in by the defendants, described as the infants' department remodelled.

(2) The addition of a new wing described in the plan as the infants' department extension. This projects from the north-western corner of the old building almost at right angles to its western side.

The extension consists of a corridor with classrooms opening off, and is connected with the original building by an opening cut in the external wall of the latter, so as to form a continuous passage. At the end of the passage, remote from the old building is an entrance from the playground. It has not been contended that the whole building as altered and extended constitutes a "new building." It is admitted that the "remodelled infants' department" is not a "new building." But it is contended that the extension is a "new building" within the meaning of sect. 3 of the Education (Administrative Provisions) Act, 1911.

The term "new building" in this section must, I think, be either construed in its natural sense or explained by reference to the London Building Acts. By the London Building Act, 1894, sect. 5 (6), the term "new building" is defined "to mean and include," *inter alia*, "any space between walls and buildings which is roofed or commenced to be roofed after the commencement of this Act." It has been contended that this definition covers the case of the new wing. I do not think that those words can apply to an addition. Otherwise it is difficult to understand how any addition can escape being included in the category of new buildings. But the Act clearly distinguishes between "new buildings" and "additions" to old ones. They are so distinguished in the Third Schedule. The District Surveyor's fees are different in the case of New Buildings and in that of "additions." Additions are placed on the same footing as alterations. Similarly in sect. 209, which subjects "additions," "alterations," and other work done upon a building to the provisions of the Act relating to new buildings, it is assumed that an "addition" is distinct from a new building. Whether a building is a new building or an addition to an old one must be a question of fact and degree. In the case of Holliday & Greenwood, Ltd., *v.* District Surveyors' Association and Dicksee, the Court appear to have so treated it.

In my opinion, whether the expression "new building" in the Education (Administrative Provisions) Act, 1911, sect. 3, is construed in its natural sense or by reference to the London Building Act, the extension of the infants' department is not a new building, but an addition to an old one; and the defendants were therefore not exempt under that Act from serving a building notice in respect to it. However this may be, it is admitted that the defendants were not exempt under that Act from serving a building notice in respect to the alterations to the old building. It is, however, contended that, apart from the Act of 1911, the defendants were not liable to serve a building notice on the following grounds. It is contended:—

(1) That by sect. 201 (5) of the London Building Act, 1894, the building in question is exempt from the operation of Parts VI. and VII. of the Act as being a "public building" "belonging to" or "occupied for public purposes by the County Council of London," as by sect. 5 (27) "public building" means "a building used or constructed or adapted to be used as a . . . school"; and (2) that, although sect. 145, which provides for the service of a building notice, is not included in Parts VI. or VII., the defendants were not liable to serve a notice because in the particular facts of this case the District Surveyor had no duties to perform. It is pointed out that the exemption from Parts VI. and VII. relieves the District Surveyor of all duties in respect to materials and construction.

As to the other parts of the Act, it is urged that the buildings are remote from the street. No question of building line, in fact, arises. The elevation of the roof of the old building has not been raised. The addition has no story above the ground floor. No question of height, therefore, arises. The case of Westminster Corporation *v.* Watson (1902, K.B., 717) is relied upon. As to the first point, I am of opinion, but with some hesitation, that the exemption under sect. 201 (5) applies.

The second point appears to me to have been decided against the defendants by the joint effect of the cases, London County Council *v.* District Surveyors' Association and Willis (73 J.P., 291), and Galbraith Brothers *v.* Dicksee (74 J.P., 348).

In the latter, Alverstone, C.J., observes:—"Mr. Lush has said that in this particular case he (*i.e.*, the District Surveyor) would have nothing to do. That may be perfectly true; but it does not follow that because he has nothing to do in a particular case he will have nothing to do in any case." And further on: "The Surveyor has to keep the eye of a watch-dog on what is going on."

It is to enable the District Surveyor to exercise this supervision that notice must be served, and it is not an answer that, in a particular case such as the present, he may have nothing to do but to ascertain the fact that no breach of the Building Act is involved in the work.

He inflicted a nominal penalty of 20s., with £15 15s. costs.

Leading Contents.

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ILLUSTRATIONS.

Buckingham Palace New Front.

WE are glad to be able to illustrate two excellent photographs, taken by Messrs. Bedford Lemere & Co., of the new front of the Palace, as we think they will be of interest to our readers.

Folly Farm, Sulhampstead.

OUR plate illustrates some ½-in. scale working details for the new west wing at Folly Farm, completed about eighteen months ago. The walls are of brick faced with small red-brick facings, and the roofs have been covered with old tiles found in the neighbourhood. The woodwork throughout is of English oak. The covered balcony was designed to meet the special requirements of the owner.

Mr. E. L. Lutyens, A.R.A., is the architect.

Johannesburg Art Gallery.

IN our issue of March 7, 1913, we published general small-scale drawings for this building. We are now able to illustrate some of the ½-in. scale details from which this work has been carried out.

The portion now approaching completion consists of nine galleries and the entrance portico, all of which are faced with stone from Elands River Quarry. The remainder of the scheme will be completed at a future date.

Mr. E. L. Lutyens, A.R.A., is the architect.

CORRESPONDENCE.

The Decorative Artists' Sketch Club.

SIR,—May I, as the originator of a scheme which led to the formation of the Decorative Artists Sketch Club—in thanking you for the notice you have given of our first exhibition—correct a misunderstanding which appears to exist as to our aims? The objects of the Club are purely recreative, and our intention is to appeal to those who are tied to the drawing-board for commercial purposes. We induce them to go to Nature in their spare time, working out-of-doors in the summer months, and from the life and costume in winter evenings. Was it not Ruskin who said that "One must paint or draw for the fun of the thing"? How soon the zeal of the student is exhausted and how his work suffers—"smells of the lamp," as we call it—if he has no inducement to feed his mind with frequent draughts from the inexhaustible sources of Nature!

All that is bad in design, feeble in form, and unworthy in expression is surely due to the attempt to overdraw on the limitations of an ill-nourished mind. Granted that our first exhibition displays more landscape than decorative work (though much of the work shown is decorative in feeling), this is rather what we seek. I hope another time that the section devoted to purely decorative work may be stronger; let those who will express themselves in this way. Only about a third of the members were able to exhibit owing to an unavoidable short notice, but this first exhibition served the purpose of bringing the members into touch with one another. Naturally, we hope in the future to do bigger things.

Whilst we are grateful for the very sympathetic way in which our efforts have been received, we are ready to profit by any adverse fair criticisms which are offered; but exactly how our member, Mr. Fred Taylor, the well-known poster-artist and the originator of the amazingly clever series of railway posters, will accept your criticism of his most popular poster, "Victoria Station," as "a most painstaking *imitation* of some very clever recent work, but it lacks that spirit which distinguishes that work," I shudder to think.

BERTRAM PUCKLE.

Advertising and Trade.

WE have received the following letter from a well-known business house:—

SIR,—Doubtless you know that advertisers in this country are stopping advertising to a very great extent. Up to the present the Press of this country have not pointed out that such a course is likely to have a very serious effect upon trade, and that with the stopping of advertisements and the consequent limitation of trade a large number of firms will have to discharge their employees, and that the coming winter will witness grave unemployment, which will add considerably to the country's troubles.

It seems to me that it is the duty of the Press at the present moment to point this out and to emphasise the necessity for the continuation of advertising. It is useless for individuals to undertake this work.

The opinion of the Press on such a matter would, I believe, cause many firms to resume advertising who have at present cancelled their contracts.

I am not writing this letter in the interest of the Press of this country, who will be badly hit by the stoppage of advertising, but in the interests of many thousands of employees whose livings depend upon the prosperity of the Press—printers, advertising agents paper-making firms, process engravers, electrotypers, and many others. X. Y. Z.

[*** Naturally all papers like advertisements and regard advertisers benevolently!—ED.]

COMPETITION NEWS.

It must be understood that the following paragraphs are printed as news, and not as advertisements; and that, while every endeavour is made to ensure accuracy, we cannot be responsible for errors that may occur.

The list of current Competitions is printed on page 203.

Hospital, Durham.

At a recent meeting of the Durham Board of Guardians a letter was read from Mr. Segar Owen to the effect that he had carefully examined the five sets of drawings for the proposed new hospital submitted to him, and considered them on the whole to be an excellent series. He placed design No. 5 first in order of merit and No. 1 second. The Chairman, after opening the envelope marked No. 5, announced that the award was given to Messrs. Milburn, of Sunderland. Messrs. Morton, of South Shields, submitted No. 1 design; and the other competitors were Mr. J. G. Burrell, Durham; Messrs. Newcombe & Newcombe, Newcastle; and Messrs. Phillipson, Newcastle.

Dublin Town Planning Competition.

His Excellency the Lord Lieutenant of Ireland has decided, in consequence of the various difficulties arising from the present situation created by the war, to postpone the time for sending in plans, etc., for this competition until April, 1915.

Middleton Town Hall.

The following is the result of the Middleton Town Hall Competition, assessed by Mr. G. Hastwell Grayson:—First premium, £100, Mr. A. G. Horsnell, London; second premium, £50, Messrs. Briggs, Wolstenholme, & Thornely, Blackburn; third premium, £25, Messrs. Clapham & Symons-Jeune, London. One hundred and seven designs were submitted.

Secondary School, Sunderland.

Messrs. W. & T. R. Milburn have been placed first in the competition for a Secondary School at Sunderland, assessed by Mr. Edwin Cooper, F.R.I.B.A., Messrs. Crouch, Butler, & Savage securing the second premium.

FIFTY YEARS AGO.

Court News.

THE BRUNSWICK-SQUARE DISTRICT.

GASPINGS for fresh air, cries for aid, and lamentations over evil conditions reach us from various quarters. We aid where we can. From the district of the squares, for example, comes this humble plaint:—

"We should be extremely obliged to you, sir, if you would visit this place and see how we are treated by the sanitary officers of this parish. We are labouring men in the building line, and we have no one to appeal to but you. The dust has not been removed from before our windows for more than twelve months; and we look to you for redress. The spot we point to is Compton-place, Compton-street, Brunswick-square."

Between Burton-crescent, on the north, and Guildford-street, on the south, Woburn-place, west, and Brunswick-square, east, there are seven blocks of good houses fronting good streets, each block enclosing and hiding from view courts and mews. Of the evils of some of these, such as the Colonnade-mews, behind Bernard-street, we have before now spoken. Good men have been at work in the district since then, and it is quite possible that some improvements have been effected; indeed, we expect that this is the case. Our present business is with only one of them, namely, Compton-place, where, after the appeal we have printed, we went as a matter of course. The statement made was more than justified. Compton-place is one of a congeries of courts, opening out of Compton-street and into Hunter-street, with a police-station handy. Against a dead wall, in one part of the court, we found an enormous heap of "dust," vegetables, and other decomposing matter, including dead cats and dogs, leaving little room to doubt the assertion of our poor correspondents that it had been accumulating there for months; indeed, unless the spot be the dust-heap of the neighbourhood beyond the precincts of the court, it is difficult to understand how the mass could have been produced. The smell was sickening. What this will be when the heap is dug into for removal is one of those things more easily imagined than described. Surely it only needs that this evil should be brought under the notice of the parish authorities to ensure a remedy and to prevent a repetition of it. They must go farther, however, than this. In the centre of the court is a large grated gully-hole, apparently untrapped, and from it issues a filthy reek (we speak on the evidence of our own senses), poisoning the pure air and unfitting it to sustain healthy life. At the time of our visit, the middle of a day, we counted more than ninety little children in this and the adjacent court; and a dozen of them were clustered around the very gully-hole in question. The injury such a vent as this must do, constantly pouring out deleterious fumes, is enormous, and calls at once for a remedy.

[*** We give the above extract from the *Builder* of August 20, 1864.]

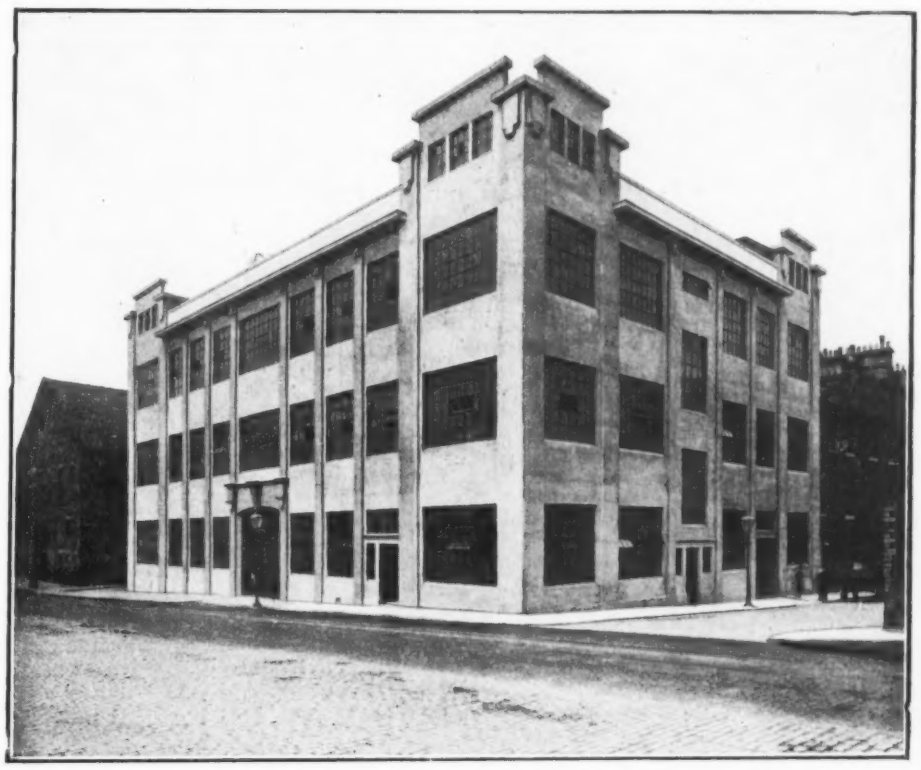
VENTILATION OF THE HOUSE OF COMMONS.

In their Report upon the heating and ventilation of the House of Commons the Select Committee recommend that no extensive alterations be made until experimental trials have been made of certain minor alterations. Among those suggested are air trunks to be constructed beneath the floor of the galleries all round the House and hot-water pipes under all benches, as is now the case under the front benches. The effect of these experiments should be noted and a fresh Committee appointed to make a full Report next Session. The Committee add that the rooms occupied by the Press at the rear of the Press Gallery are most inadequately ventilated, but they are convinced that no alterations would be of any material benefit without the removal of party walls.

CONSTRUCTION SECTION.

MOTOR WORKS, GLASGOW.

AN interesting example of a complete reinforced-concrete building is to be found at Glasgow in the structure that has just been completed for Mr. W. Parks from the designs of Mr. Richard Henderson, architect, 121, St. Vincent-street, Glasgow. The site is a corner one, with frontages to three streets, the main frontage having a length of nearly 100 ft. and the two side ones a length of 75 ft., while the height is about 43 ft. from the ground-floor level to the main roof. The ground floor is allotted to the offices, a smithy, and a receiving store, the business that will be carried on consisting of body-building for motors and also horse-drawn vehicles. The first floor will be utilised as a turning and general carpenters' and joiners' shop. Various machines had to be installed on this floor, including circular saws, and there is a lot of shafting on this floor and also in other parts of the building. This shafting is attached to the reinforced-concrete beams, the large beams having holes lined with iron tube through which the shafting passes, and sockets being provided for attachment to the secondary beams. Holes are left in numerous positions throughout the building as a provision for any alteration or addition to the shafting at some future date. This method of attachment does not theoretically weaken the beams, as the holes are formed in the concrete below the neutral axis, which concrete was neglected in the consideration of the resistance to longitudinal stresses. The second floor is devoted to the painting and varnishing of the bodies, it being divided into three separate divisions by airtight partitions for general painting, enamel work, and varnishing. The roof has been calculated for use as a floor, and two corner features are carried up for a sufficient height to form two rooms above the roof, each about 16 ft. by 18 ft., for the storage of petrol and paint. The upper floors and roof are served by two staircases and one large lift, the latter being about 23 ft. 6 in. by 10 ft.; thus large motors and vans can be raised or lowered. The whole of the structure, including the external walls, is executed in reinforced concrete on the Kahn system, designed by the Trussed Concrete Steel Company, Caxton House, Westminster. The building is divided up into five main bays across the long frontage by main columns about 20 ft. apart, and there are four similar bays across the smaller frontages. There are many smaller columns, as required by the planning, and some of these are for the height of one floor only. A general idea of the lay-out of the constructional members can be gathered from the plan illustrated in Fig. 1, and the heights are given in the section illustrated in Fig. 2. The foundations to the columns are of five types according to the loads to be carried, and they vary from 9 ft. square to 5 ft. square on plan. The largest type is illustrated in Fig. 3, and it will be seen that it has a minimum thickness of 1 ft. 3 in. at the outer edges, increased to 3 ft. at the junction with the column, with reinforcement consisting of ¾-in. rib bars in the lower surface in both directions to form a lattice. Some of these bars are bent upwards towards the ends as shown, and splice bars of the same size as the column reinforcement are introduced into the mass of the foundation concrete, and to these the column reinforcement is wired when it is placed in position. All the bases are designed on the same principle with the exception that in the two smallest types the upper square block of concrete at the junction with the shaft of the column is omitted and the splay only is formed. In the case of the columns which occur at the rear of the building adjacent to the party wall, it was impossible to obtain the necessary spread with the ordinary type of base without projecting some distance under the adjoining building, and, in consequence, these columns are carried on foundation beams, as illustrated in Figs. 4 and 5, which are an elevation and section of one beam. It will be seen that three columns occur on each beam, and the latter is 3 ft. 6 in. deep, with a width of 18 in. at the top, increased to 2 ft. 9 in. at the bottom by a splay on one side to decrease the unit pressure on the soil. The beam is reinforced on the lower surface with six rib bars and in the upper surface with two rib bars, with ⅜-in. rib bars as stirrups at 18-in. centres to connect the two sets. The general arrangement of the rods is clearly shown in Fig. 4 as regards the bending and disposition. The floor is formed at this lowest level with a 6-in. slab over the whole site, this being reinforced by ⅝-in. diameter rib bars in both directions spaced at about 1 ft. 3 in. centres, and carried up 18 in. into the surrounding concrete walls. The pit for the large lift is sunk as required, and the bottom of this is also formed as a reinforced-concrete slab, with bars at 12-in. centres.



Motor Works, Glasgow: View of Finished Building.

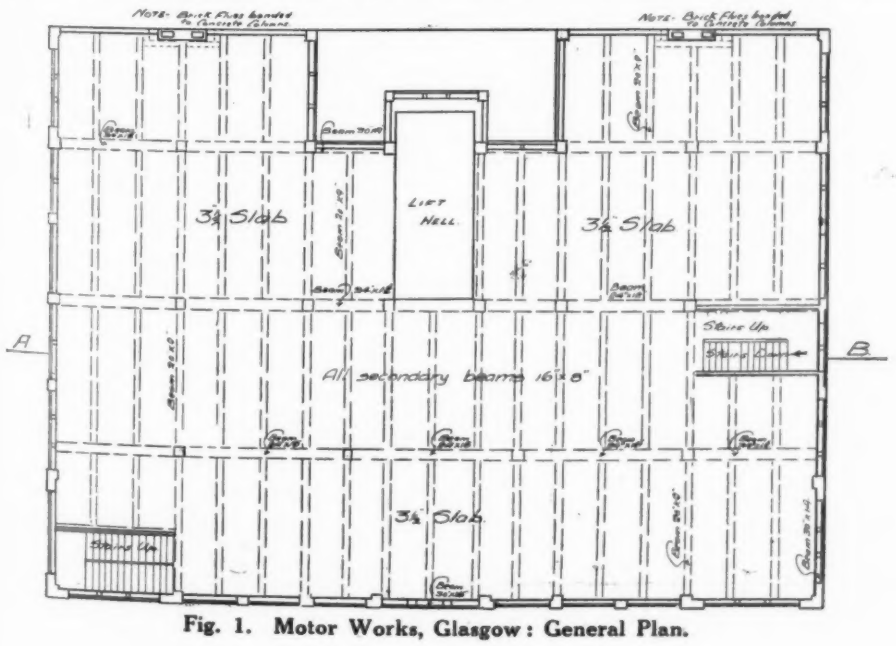


Fig. 1. Motor Works, Glasgow: General Plan.

The largest columns generally are 18 in. square from the foundation to the first floor, where they are reduced to 14 in. square, with a further reduction at the second floor to 10 in. square. The reinforcement up to the second-floor level consists of eight vertical rib bars, bound by $\frac{3}{16}$-in. wire ties at 12-in. centres, these being arranged to pass around on the outer edges of the column, and also diagonally across the corners. The topmost section has four vertical rods only, and these are bound with ties at 8-in. centres. The wall columns are of varying shapes and sizes according to their position, but the corner piers have a width of 3 ft. on each return, with a thickness of 12 in., and these are reinforced with ten vertical rods, six of which are ¾ in. diameter, and four are ⅝ in. diameter. In many other cases the piers are treated in a similar manner to the internal columns, and generally are 18 in. square, reinforced with four rods.

Provision was made when casting the column for connection to the wall by introducing 1 in. by $\frac{1}{16}$-in. flats, which were bent down against the centring while the column was being formed, and these were afterwards bent out at right angles to come into the 8-in. wall panels adjoining.

The floors were designed to carry an external load of 1½ cwt. per foot super., and these are formed with main beams between the columns, having a maximum span of about 22 ft., and

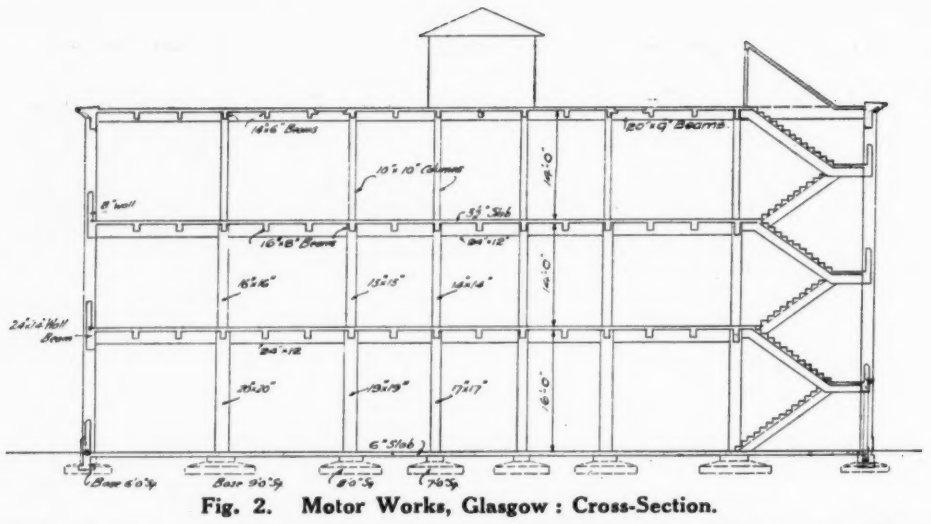


Fig. 2. Motor Works, Glasgow : Cross-Section.

secondary beams at about 5 ft. 6 in. centres, with a maximum span of 20 ft., thus each main beam supports the ends of six secondary beams. A typical detail of a main beam is illustrated in Fig. 6, this beam being 24 in. deep and 16 in. wide, with five ¾-in. diameter rib bars and two 1¾-in. Kahn trussed bars in the lower surface and two ¾-in. rib bars in the upper surface. Some of the rib bars are turned up at the ends of the span in addition to the wings of the Kahn bars as a provision against shear and diagonal tension, and vertical stirrups are provided for the central portion of the span over a distance of 10 ft., these being spaced at 12-in. centres. A typical secondary beam, having a span of 20 ft., is illustrated in Fig. 7, this being 14 in. by 6 in., reinforced with one 1½-in. Kahn trussed bar in the lower surface throughout the length, and a similar bar 9 ft. long in the upper surface where passing over the main beams to provide continuity. These dimensions include the thickness of the floor slab, which was cast at the same time as the beam of which it forms a part. The slabs have a total thickness of 3½ in., and they are reinforced with ¾-in. diameter rib bars at about 9-in. centres at right angles to the secondary beams, with similar bars 5 ft. long over the main beams to provide continuity, and the main roof is constructed in a similar manner. The staircase construction is also of reinforced concrete, and this is formed with a minimum thickness of concrete on the soffit of 7 in., reinforced with ½-in. Kahn bars placed longitudinally at about 12-in. centres, while the landings are 4½ in. thick, reinforced with rib bars at 12-in. centres.

The design of the external walls has been considered in conjunction with the material employed, and the detail is extremely simple, with practically no mouldings or enrichment. Vertical lines are obtained by allowing the wall piers carrying the ends of the beams to

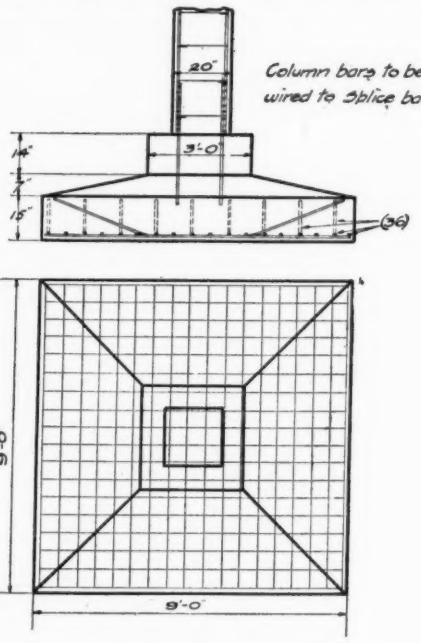


Fig. 3. Motor Works, Glasgow : Column Foundation.

project beyond the main face and the panels between the heads of the lower windows and the sills of those above are filled in with 8 in. of concrete reinforced with vertical and horizontal bars. When mullions occur to the larger windows they are 8 in. square, with four vertical bars as reinforcement, thus forming small columns. The main cornice at the top of the building, which projects a distance of about 1 ft. 9 in., is of concrete reinforced with two longitudinal rods and ⅜-in. rib bars transversely at 12-in. centres in the upper surface. The parapet wall above is 8 in. thick reinforced with vertical and horizontal ⅜-in. diameter rib bars at 18-in. centres.

The lift enclosure with gear chamber over extend for a height of about 23 ft. above the main roof level, and here the walls are 10 in. and 8 in. thick for the lower 16 ft., reducing to 5 in. for the upper portion, and the roof over this portion is also 5 in. thick. The whole is in reinforced concrete, and the only steel girders employed are those for the support of the actual gear of the lift.

The floors throughout the building are covered with granolithic, and the roof is finished with the same material, and, in addition, a watertight composition was added in this case. The whole of the concrete was mixed by machinery in the proportions of 4 parts coarse aggregate, 2 parts fine aggregate, and 1 part Portland cement.

Iron sashes are used in all the windows, and the whole of the construction throughout is fire-resisting in character, while there is no doubt that the cost was far less than would have been the case if steel-framed construction and brick walls had been adopted.

The general contractors for the work were Messrs. Stevenson & Co., Glasgow.

A NEW TYPE OF URINAL.

A NEW design in urinals has been evolved as the outcome of the complaints which were made by the members of the Royal Automobile Club, who stated that water and urine were frequently splashed on to their boots and trouser legs, and the Resident Engineer consequently designed and perfected a special type which has anti-splash treads, absolutely preventing any water or urine from reaching the boots and trouser legs. A plan and section of the urinal is illustrated in Figs. 1 and 2, and it will be seen that it has the advantage of being more hygienic than the ordinary type, as no urine can reach the floor. With the usual type the floor and treads are generally liable to become covered with urine, which is not reached by the flush, and is only cleaned occasionally by the attendant, and consequently this causes offensive smells and leads to an unsanitary condition of affairs. This is not possible with the new type, as the special anti-splash has a good fall inwards, and practically all parts are cleansed by the flush. It will be noticed also that the back of the urinal is V-shaped rather than of circular form, and

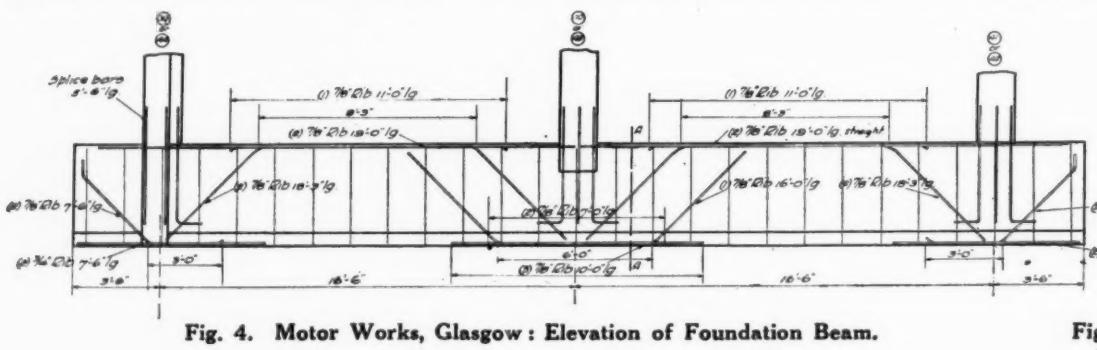


Fig. 4. Motor Works, Glasgow : Elevation of Foundation Beam.

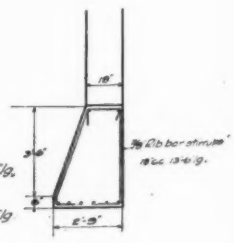


Fig. 5. Motor Works, Glasgow : Section of Foundation Beam.

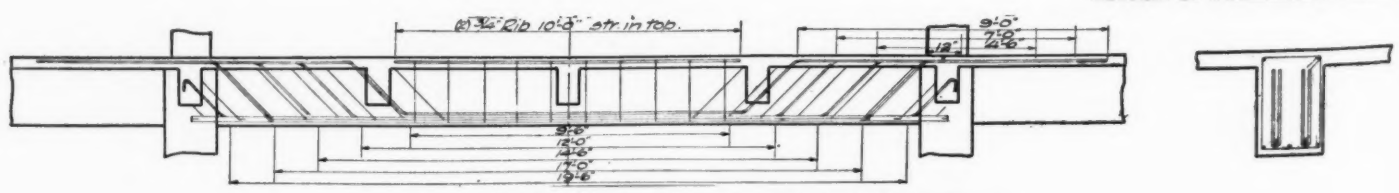


Fig. 6. Motor Works, Glasgow : Detail of Main Beam.

Fig. 7. Motor Works, Glasgow : Detail of Secondary Beam.

it may be said that the more nearly the V-shape is approached the less chance of splashing there will be.

This design of urinal is a step in the right direction, and it should be extensively

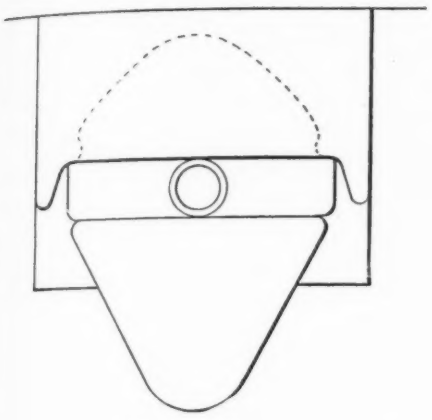
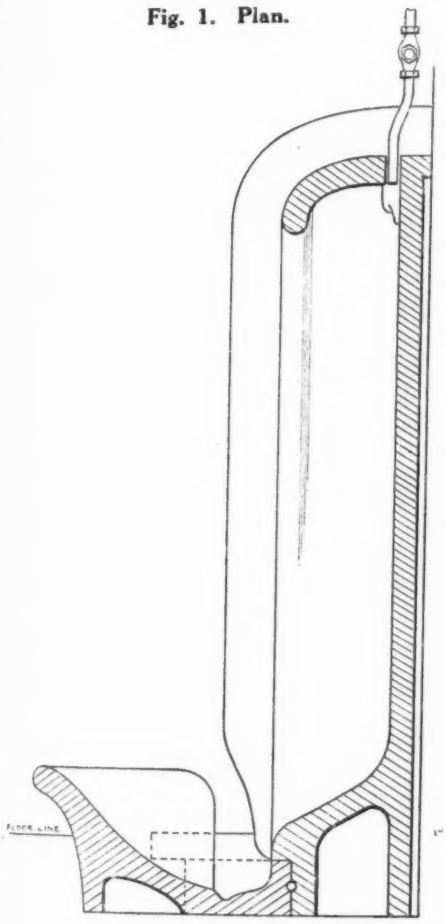


Fig. 1. Plan.



SECTION.

Fig. 2.

employed. Separate trays can be obtained to fit to existing urinals, these being of porcelain-enamelled iron, and thus there is no fear of breakage if knocked with the feet.

A PRACTICAL TREATISE ON SUB-AQUEOUS FOUNDATIONS.*

THE question of sound and practical design in foundation work is of such importance that any attempt to deal with the subject in a comprehensive manner is to be welcomed, and the volume by Charles Evan Fowler, which has been recently published, is one which contains a vast store of information for the architect and engineer.

The title does not adequately describe the scope of the work, as there are over 800 pages, and a great number of these are devoted to ordinary foundations, retaining walls, concrete work and forms, and many practical examples are illustrated and explained, as the author considered it worth while to cover the whole of the subject and the questions closely allied to it to obviate the necessity for continual reference to other works. The historical development is dealt with, and it is interesting to note the drawing of Cæsar's Bridge over the Rhine, with the pile-driver in position for driving, this drawing being taken from an old print in the Museum de St. Germaine.

Coffer-dams are described at some length, and a chapter is devoted to pile-driving and sheet piles, with special reference to reinforced concrete and steel piling. The notes on sheet piling are supplemented by calculations, and these should be useful, as there is no doubt that the strength of these forms of construction is seldom considered, and a great deal of work is executed on the guess-work principle based upon past experience. Such a method of procedure may prove disastrous in the case of a coffer-dam where the water pressure is considerable, and the author has endeavoured to put the matter in a simple manner which will commend itself to engineers and remove the possibility of the design being prepared without due consideration of the strength required.

Metal coffer-dams and caissons are greatly used in this country, and a notable example is that of the Forth Bridge and the Clarence Bridge at Cardiff. The former example is described in detail and illustrated with several diagrams, and the description makes very interesting reading.

The load-bearing capacity of soils and the necessity for the determination of these in important buildings is dwelt upon by the author, who states that experiments were made on the foundation soil for the State Capitol at Albany, New York, one of the most important buildings in the United States, and the material, which was blue clay, was found to sustain a load of 6 tons per square foot, and it was decided to adopt 2 tons as the safe load in the design of the foundations. In the case of the Congressional Library at Washington, another important building, the yellow clay was found to be capable of carrying a total load of 13½ tons per square foot, and in the actual design the safe load was calculated at only 2½ tons.

The building laws of New York are generally used as a model for all work in America, and the safe loads allowed under these laws are (1) soft clay, 1 ton per square foot; (2) ordinary clay and sand together, in layers, wet and springy, 2 tons per square foot; (3) loam, clay, or fine sand, firm and dry, 3 tons per square foot; (4) very firm coarse sand, stiff gravel, or hard clay, 4 tons per square foot. The author deals with the question of failure on footings, and states that it seems strange, considering the wide variations in practice, that few failures of footings have been publicly reported. It must be remembered, however, that these portions of a structure are out of sight, buried deep in the earth without opportunity for inspection. A failure in a footing may effect a change in the distribution of the load over the bed of the footing, resulting only in increased settlement. Possibly many instances of undue settlement in buildings may be due to failure in the footings. Possibly in other cases the earth at the centre of the footing may be able to take the increased load under the conditions of side restraint developed. It is also probable that many footings have been made unduly strong.

Some interesting notes and diagrams are given in connection with the design of retaining walls for earth and water, and these include a standard retaining wall, City of Seattle, with a specification of the work in the execution. There is a great tendency to standardise all constructional features in America, both in building and railway work, and such standardisation is not without its advantages, as the standard designs are prepared by eminent engineers, who deal with the questions in a scientific manner and evolve an economical type which must be of value to those who have not the same ability in theoretical constructional design.

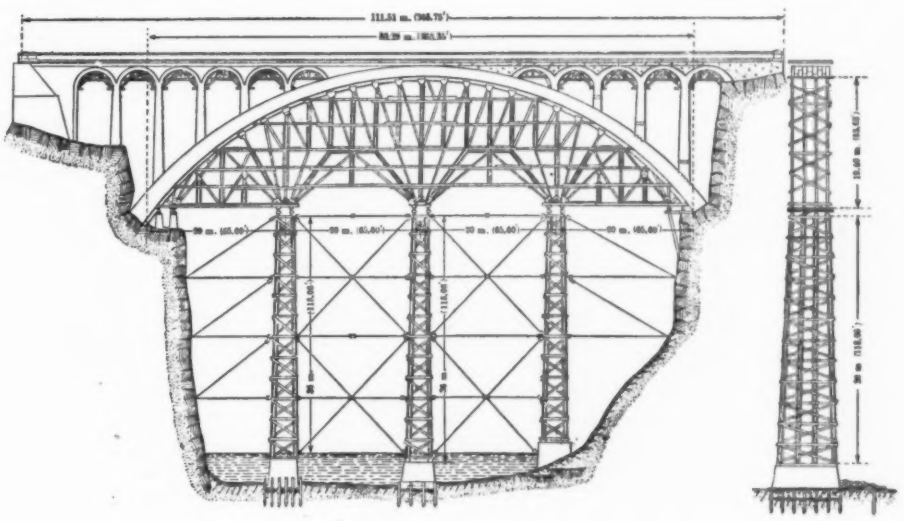
A chapter is devoted to the consideration of cement and concrete, with descriptions of various mixers, and this is followed by a chapter on foundations for piers and wharves wherein the question of reinforced concrete piles and their merits is discussed at some length. There is no doubt that these piles are far superior to timber piles for such work, and the author's deductions show that he is an advocate of reinforced concrete for important work. Timber piers and piling are certainly still used a great deal in parts where timber is easily obtainable, but the fact of them being used is entirely due to considerations of initial cost, and the application of such a material as reinforced concrete in some districts would involve the transport of materials over such a great distance that the expense would be prohibitive.

In the notes dealing with the foundations for dams, sea walls, and breakwaters, examples in all parts of the world are detailed and described, and it is instructive to compare the various methods adopted. Every conceivable system seems to be worked on, from solid brickwork and masonry to combinations of timber and concrete, and they all have some merit dependent on the special circumstances which governed the design in each instance.

The construction of forms for concrete work, although of such great importance, is often little considered, and the section devoted to this subject is an important one in the volume, as the author endeavours to deal with those points which make for efficient design, while bearing in mind the importance of arranging the forms so that they can be used many times over. This last point has great influence on the cost of concrete work, and many schemes could be executed at a greatly reduced cost if more attention was concentrated on the design of the forms. Several illustrations are introduced in the form of photographs and drawings, and a typical example of the latter is here reproduced, this showing the tower method adopted at Montangeo, France. The use of steel forms is also dealt with and advice is given on the removal of forms for different classes of work.

Estimating the cost is considered in a chapter under this heading, and a wise statement is made when the author puts forward the opinion that the three factors to be utilised in making any estimate are the cost of labour, the cost of material, and judgment.

There is much to be said for the last factor, as it is impossible to deal with every estimate in exactly the same way, and unless the estimator is able to apply his judgment in a correct manner he is likely to experience much trouble in handling varying classes of work. Ten appendices are attached to the volume, and these relate to various standard specifications and other matters, and the author has certainly dealt with the subject in a broad-minded and thorough manner.



* "A Practical Treatise on Sub-Aqueous Foundations." By Charles Evan Fowler. (London: Chapman & Hall. Price 31s. 6d.)

THE BUILDING TRADE.

PROFESSIONAL TRAINING FOR THE BUILDING TRADE.—III.*

HAVING in the preceding articles seen what are the shortcomings of the apprenticeship system as hitherto practised and having indicated the qualifications which a system ought to provide, we will now consider how far the remedy lies in the hands of employers of labour and how far there is need for outside assistance from educational and governmental authorities.

First, let it be said that in the absence of any compulsion, requiring youths to serve apprenticeships or employers to train them, it is clear that the inducements must be to the youths immediate earning power plus future prospects, and to the employers immediate utility in business plus future utility in the shape of staffs of trained and reliable workers who are in the main sufficiently attached to the firms where they were trained to stay with them in after-years. The first thing is for each employer to consider how he can make apprentices pay and so make it worth his while to attract them and train them.

It is all very well to say that employers ought to train apprentices for the future needs of their trade; unless it is made in some way compulsory upon all of them, the majority of employers will shirk the task, and the willing ones alone cannot suffice, but, if the question of taking apprentices can be put upon a paying basis from the employers' point of view, there will be a direct inducement for all employers to make apprentices.

In the building trade there is a vast range of operations, some very simple, involving little skill, others quite the reverse. Then there are certain jobs which cost more in labour than the clients think ought to be the case; in short, some jobs have to be done cheaply or there will be trouble when the bill goes in.

For example, a much better price can be got for whitewashing a drawing-room ceiling than can be got for the ceiling of a scullery; clients will pay a better price for identical work done in a mansion than they will if it is done in one of the cottages on the estate surrounding the mansion.

The natural thing is, therefore, to put apprentices to do jobs which will not carry the cost of men's labour. Unfortunately, under the present system apprentices can rarely be trusted in that way, because they are so indifferently trained. How can this be remedied? In the writer's opinion, based on experience of training apprentices, the present practice of isolating apprentices, one to a job, or if a large job perhaps two or three, is wrong.

The men do not care to train them; on the contrary, they rather object to apprentices; the boy feels unable to measure himself with them in any way, and he simply either remains indifferent or listens to a lot of talk which he would be just as well without.

On the other hand, put a number of apprentices together without supervision, and very soon there is more larking than work and a pandemonium of noise withal. The chief advantage of the atelier system of art training lies in the fact that the boys can measure themselves against one another in the practice of the art they are trying to master, interest and enthusiasm are roused, and accomplishment follows in their train.

What seems to be wanted is that apprentices should work in groups under the supervision, guidance, and instruction of a skilled man.

Thus we get back to the original practice of apprenticeship where a master craftsman himself supervised and taught apprentices. The skilled man should be permanently made an instructor of apprentices and direct them like a foreman in charge would do. Jobs should be given out to the apprentice group to handle and be responsible for just as they are given to any other group. In this way *esprit de corps* would arise, a healthy competition could be fostered, and the work of the apprentice group could be made as profitable as the work of any other group.

Here a word of warning is required. While it would be legitimate that the work of apprentices should be as profitable as that of skilled men, it is not advisable that it should become so much more profitable as to tempt employers to substitute apprentice labour for skilled labour.

It is that fear which accounts for the veiled hostility shown by workmen to apprentices and for their frequent attempts to impose, in working-rule agreements, limitations of the number of apprentices which shall be taken by each employer.

The legitimate number of apprentices in a trade would be a number sufficient to replace the normal losses of skilled men due to death, disablement, or other causes, to allow for the normal growth of a trade, and to provide a reasonable margin for contingencies. To ascertain what the legitimate number should be is a matter of collecting and tabulating statistics and should be done by Government.

Where through want of a proper and comprehensive system of recording and providing apprentices in a trade an insufficient supply of labour results much inconvenience arises for employers until the deficiency can be overcome; many attempts are made to introduce machines to take the place of costly labour, and some succeed; labour unrest, accompanied by revolutionary acts, causes trouble to the governing powers. If, on the other hand, an over-supply of labour results, then there is unemployment, cutting of wages, and reduced means of subsistence for the workers and their families, followed, in due course, by racial deterioration, decline of marriage and birth rates, and all the rest of the social problems which are costing the nation such large sums.

It is not too much to say that the scientific adjustment of the supply of men in every class of human activities lies at the base of the social welfare of a people.

(To be continued.)

* Continued from page 180.

THE TRADE PRESS AND THE OUTLOOK.

AT a meeting of the Trade Press, held on Monday in London, the following resolution was adopted:—

"That this meeting of editors of trade journals representing most of the industries of the country, after studying the present commercial problems, has come to the following conclusions:—

That our commercial prospects were never brighter, and that, given patience, confidence, and reasonable sacrifice, there is certain to be a splendid return in the early future.

That we strongly urge (*a*) the public to pay prompt cash for their present requirements; (*b*) the retailer not to take unfair advantage of the moratorium; (*c*) the manufacturer to keep up his production; and (*d*) the banks to afford all possible support to both wholesaler and retailer.

That we request the Controller of Patents to exercise any power he may possess for revoking any British patents owned by hostile countries should they operate against British industry."

SCHOLARSHIPS FOR THE BUILDING TRADE.

IN connection with the development of garden suburbs on co-partnership lines three scholarships are offered annually by Mrs. Thomas Thornton to the workmen who show the most interest in the educational work promoted by Co-partnership Tenants, Ltd., during the winter. These scholarships entitle the holders to a tour on the Continent, during which time wages are paid. Owing to the war, however, this has been postponed. The awards have just been made, and we learn that the successful students are Messrs. L. C. Godfrey, carpenter engaged on the Hampstead Garden Suburb; W. Pullen, of the Ealing Tenants Society; and Sidney N. Cartwright, engaged in the development of the Liverpool Garden Suburb. Prizes have also been obtained by representatives of the Architects' Department of Co-partnership Tenants, Ltd., and the Garden Suburb Builders, Ltd.

IMPROVED TRADE: REPORTS FROM COMMERCIAL BODIES.

TRADE is steadily recovering from the partial confusion into which it naturally fell at the outbreak of the war. The measures taken by the Government, the bankers, and the Committee of the Stock Exchange in relation to home defence, finance, and commerce have animated the business community with the greatest confidence.

There has not been that general stoppage of work and wages which was anticipated a fortnight ago. The rule is—Keep industries going and diminish the field of unemployment as far as possible. Manufacturers and business firms whose returns show a falling off are utilising their reserves to retain their workers on conditions which, under the circumstances, are fair and reasonable to both sides; and meantime, by adapting themselves to the changed situation, they are seeking new sources of trade. They look forward to better times when part of the £100,000,000 secured by the Government on the vote of credit comes into general circulation, and the expansion of home, colonial, and foreign trade comes as the result of the closing of German markets.—*The Times.*

WAR AND CONTRACTS.

WE take the following from the official Quarterly of the National Federation of Building Trades Employers of Great Britain and Ireland:—

Our London Branch has obtained an opinion from Sir Reginald Acland, K.C., from which the following is extracted:—

"Apart from any special contract dealing with the specific point as to war, no subcontractor is entitled to repudiate or to treat any contract as suspended during such time as the country is actually engaged in war.

As regards any builders being asked to enter into contracts now in pursuance of tenders submitted by them and accepted prior to the strike or lock-out it is eminently undesirable for contractors to sign any such contract until the position as regards subcontractors and also as to the delivery of materials is a little clearer.

The non-payment of certificates in my opinion comes within the present moratorium."

To the foregoing we may add that:—

In the event of a client availing himself of the moratorium to withhold payment of certificates issued prior to August 4, the builder should formally demand payment, and when it is refused should give notice that he will require interest on the delayed amount; thus he will be entitled to be paid 6 per cent. interest on that amount for the period payment is delayed.

The following questions have been asked by our members, and answered as follows, and are here repeated for the general information of members.

Do the conditions of contract as at present in use cover risks known as war risks?

Clause 25 of the R.I.B.A. form, extension of time provides for extending the time of completion if the works be delayed by *force majeure*. I should say that the withdrawal of labour for war purposes or stoppage otherwise due to the nation being at war, so long as beyond the control of the contractor, would be considered as *force majeure*.

As regards destruction of works in progress by reason of warlike operations, that is not covered by the contract; you would have to cover that by insurance like shipowners do cargoes at sea.

If not, how are contractors to provide against abnormal rises in materials included in contracts made previous to the outbreak of war?

Contractors have no remedy under the contract if prices vary for or against them while the contract is in progress. They are supposed to cover their sales by equivalent purchases at the time the contract is made. In such an abnormal case as the present, hardship cases should be reported to your Association, and they should use their good offices to procure such alleviations as the circumstances seem to warrant.

If it is not possible to provide against such risks, are contractors bound to proceed with contracts where these abnormal rates have arisen and are still existing?

I consider contractors are bound to proceed unless prevented by *force majeure*, or other cause provided for in the contract conditions, but supposing the merchants are unable to

RATES OF WAGES IN THE BUILDING TRADE.

THE following are the present rates of wages in the Building Trade in the principal towns of England and Wales. It must be understood that, while every endeavour is made to ensure accuracy, we cannot be responsible for errors that *may* occur:—

—	Masons.	Bricklayers.	Carpenters, Joiners.	Plasterers.	Slaters.	Plumbers.	Painters.	Masons' Labourers.	Bricklayers' Labourers.	Plasterers' Labourers.
	d.	d.	d.	d.	d.	d.	d.	d.	d.	d.
Aberdare	9	—	9	9	—	9	7½	6½	6½	6½
Accrington	9½	9½	9	9	9	9	8½	6½	6½	6½
Altrincham	10½	10	10½	10	8½	10	9	6½	6½	6½
Ashton-under-Lyne	9½	10½	10	10½	9	10	9	6	6	6
Barnsley	9½	9½	9½	9½	9	8½	8	7	7	7
Barrow-in-Furness	9½	10	9½	9½	9½	9½	9½	7	7	7
Barry	9½	9½	9½	10	—	9	8½	6	6	6
Bath	8	8	8½	8	7½	7½	7½	5½	5½	5½
Bedford	8	7½	7½	8½	—	8	6½	5	5	5
Birkenhead	11	11	11	11½	11	11	9½	7	7	7
Birmingham	10	10	10	10½	9	10½	9	7	7	7
Bishop Auckland	9	9	9	9	10	9	7½	6	6	6½
Blackburn	10	10½	10	9½	9½	9½	9½	6½	7	7
Blackpool	10½	9½	9½	9½	8½	9	8½	6	6	6
Bolton	10	10½	10	10½	9½	10	9½	6–7	6–7	6–7
Bournemouth	8½	8½	8½	8½	8½	8½	8	6	6	6
Bradford	10	10	9	9½	9½	10	8½	7	7	7
Bridgwater	6½	6½	6½	6½	6½	6½	6	4	4	4
Brighton	8–9	8½	8½	8½	—	—	7	6	6	6
Bristol	10	9½	10	10	—	10	9½	6½	6½	6½
Burnley	9½	9½	9½	9½	8	9	9½	6½	6½	6½
Burton-on-Trent	9	9	9	9	8½	9	8½	6	6	6
Bury	10½	10½	10	9	9½	10	9	6	6	6
Cambridge	9	8½	8½	9	9	9	7	5½	5½	5½
Canterbury	8½	8	8	10	—	8½–9	6½	5	5	5
Cardiff	9½	9½	9½	9½	9½	9½	8½	6½	6½	6½
Chatham	8	9	9	9	9	9	7	6	6	6
Chelmsford	8	7½	8	9	—	7½	6½	5	5	5½
Cheltenham	8½	8½	8½	8½	—	8½	8	5½	5½	5½
Chester	9½	10	9½	9½	9½	9½	8½	5½	6½–6½	5–5½
Chesterfield	8½	9	8	8	9	8½	7½	5½	5½	5½
Colchester	8	8½	8½	9	8	9	6	5½	5½	5½
Coventry	9½	9½	9½	9½	9½	9½	8½	6½	6½	7
Crewe	7	8	7½	9	8	7½–8	7½	5	5½	6
Darlington	9½	9½	9	9½	10	9	8½	6½	6½	6½
Derby	9½	9½	9	9	9	9	8	6½	6½	7
Doncaster	9	9	9	9	8½	9	8	6½	6½	6½
Dudley	8½	8½	8½	8½	8½	8	7½	5½	5½	5½
Durham	9	9	9	9	9½	9	8	6	6	6½
East Glamorgan and Monmouthshire Valleys	9	9	9	9	—	—	8	6½	6½	6½
Exeter	8	8	8	8	7½	7½	7	5½	5½	5½
Folkestone	8½	8½	8½	9	8½	8½	7–7½	6½	6½	6½
Gloucester	8	8½	8½	8	8	8½	8	6	6	6
Grantham	8	8	7½	7½–8	7½–8	7	6½	5	5	5
Grays	—	10	10	—	—	9½	8½	7	7	7
Grimsby	9	9	9	9	9	8	8½	7	7	7
Great Yarmouth	7½	7½	7½	—	7½	7½	6	4½	4½	—
Halifax	9½	9½	9	8½	8½	9	8½	6½	6½	6½
Harrogate	9½	9	9	9	8	9	8½	6½	6½	6½
Hartlepools	9	10	9½	10	10	10	8½	7	7	7½
Hastings	8½	8	8	8½	8	8	7	6½	5½	5½–6
Hereford	8	8	7½	8½	8	7	6½	5	5	5
Huddersfield	9½	9½	9	9	10	9	8½	6½	6½	6½
Hull	10½	10	10	10	10	9½	8½	7½	7½	7½
Ipswich	8½	8½	8½	9	8½	8½	7	5½	5½	5½
Lancaster	10	10	9	9	9	9	9	5½	6	6
Leamington Spa	9	9	9	8½	8½	8½	7½	6	6	6
Leeds	10	10	10	10	9	9½	8	7	7	7
Leicester	9½	9½	10	10½	9½	9½	9	7	7	7½
Lincoln	9	8½	8½	9	8	8½	8	6	6	6
Liverpool	11	11	11	1	10½	11	9½	6½	7	7
Llanelly	9½	9½	8½	8	9	8½	8	5½	5½	5½
London	11½	11½	11½	11½	—	1s.	8	8	8	8
Loughborough	9	8½	8½	9	9	8½	7½	5½	5½	5½
Luton	9½	8½	8½	8½	9	8½	7½	5½	5½	5½
Maidstone	9	9	9	9	9	9	8	6	6	6
Manchester	10	10½	10½	11	10	10	9½	6½	6½	7½
Mansfield	8½	9	8½	8½	—	8½	8	6	6	—
Merthyr Tydfil	9½	9½	9½	9½	8½	8	8	6½	6½	6½
Middlesbrough	9	10	9½	10	10	10	8½	7	7	7½
Newcastle-on-Tyne	10	10	10	10	10	10	9	6½	6½	6½
Newport, Mon.	9	9	9	9	8½	9	8½	6½	6½	6½
Northampton	9	9	9	9	8½	9	8	6	6	6
Norwich	8	8½	8½	8½	8	8½	7	5½	5½	5½
Nottingham	10	10	10	10½	9½	10	9	7	7	7½
Oldham	10½	10½	10	10	9	10	9½	7	7	7½
Oxford	9	8½	8½	8½	8	8½	7½	6	6	6
Plymouth	9	9	9	9	9	9	7½	6	6	6
Pontypridd	9	9	8½	9	9	9	8	6½	6½	6½
Portsmouth	9½	9½	9½	9½	—	8½	7½	7	7	7
Preston	10½	10½	10	9½	9	10	9½	5½	6	6½
Reading	8½	9	9	9½	—	9	7½	6	6	6
Rochdale	10	10½	10	9½	8½	9½	9	6½	6½	7
Rochester	8	9	9	9	9	8½	7	6	6	6
Rugby	8½	8½	8½	8½	8	9½	8½	5½	5½	5½
St. Albans	9	9	9	9–10	9	9–10	8	6½	6	6½
St. Helens	9	9½	10	9½	9½	9½	9½	6	6	6
Scarborough	8½	9	8½	8½	8	8	7½	6½	6½	6½
Sheffield	10½	9½	9½	9½	9½	9½	8½	6½	6½	6½
Shrewsbury	8½	8½	8½	8½	—	8½	7	5½	5½	5½
Southampton	8½	9½	9½	8	—	9½	8½	6½	6½	6½
Southend-on-Sea	9	9	9	9	P'cework	9	7	6	6	6
Southport	10	9½	9½	9½	9½	9½	9½	6	6	6
South Shields	10	10	10	10	10	8½	9	6½	6½	6½
Stockport	10½	10	10	10½	9	10	8½	6	6½–7	7½
Stockton-on-Tees	9	10	9½	10	10	10	9	6	7	7½
Stoke-on-Trent	9	9½	9	9	—	8½	8½	6	6	—
Stroud	7½	7½	7½	7½	7½	7½	7	5	5	5
Sunderland	10	10	10	10	9½	9	9	6½	6½	7
Swansea	9	9	9	9	8½	9	8	6	6	6
Taunton	7	7	7	7	—	6	6½	4½	4½	4½
Wakefield	9½	9½	8½	9½	8½	9	8	7	7	7
Walsall	9	8½	9	8½	8½	8½	7½	6½	5½	6½
Warrington	8½	9½	9½	10	8½	9½	8½	5½–6	6	6–6½
West Bromwich	9½	9½	9½	9½	—	8½	7½	6½	6½	6½
Wigan	10	10½	9½	9½	9	9½	9½	7	7	7
Windsor	9	9	9	10	—	9	—	6	6	6
Wolverhampton	9½	9½	9½	10	8	10	8	6½	6½	6½
Worcester	8½	9	9	8½	8½	8½	7½	6	6	6
York	9½	9½	9	9½	9½	8½	8	6½	6½	6½

The mason's rate given is for bankers; fixers usually ½d. per hour extra.

deliver because of war difficulties, I should think it would be *force majeure*—the term is obviously a rather elastic one.

In giving tenders in future how can abnormal rises that may take place at any moment be guarded against?

I do not think they can be guarded against except by a clause providing for that event, and in such case to be equitable it would have to provide to cut both ways, so that a fall in price would go to the client and a rise to the builder.

As to the present position generally:—

I think the best thing to do is to appoint a strong local Committee to consider each case on its merits, and make the most favourable arrangements with building owners that they can; they would incidentally collect a lot of information which might be useful in case we have to appeal to Government.

I recommend that information be sent to the Board of Trade of any cases of undue holding-up of materials, and that the assistance of the Board be invoked.

Further, that your Committee consult with the local merchants with a view of amicably arranging how best to get through the difficulties as they arise, and in a spirit of equity.

As regards new tenders, members are recommended to qualify them by the inclusion of the following clause:—

"Our tender is based upon the normal rates of wages and material prevailing prior to August 4, 1914, and any advance in cost of labour and material to be added to the amount of contract upon satisfactory proof being given of such increases. Any difficulty or delay in obtaining labour or material to be the subject of a reasonable extension of time."

BRITISH MANUFACTURERS AND THE WAR.

THE Commercial Intelligence Branch of the Board of Trade have issued the following circular:—

"In view of the state of war which exists between this country and Germany and Austria-Hungary, the Board of Trade are confident that British manufacturers and merchants are already devoting special attention to the opportunities now afforded them of establishing themselves in Colonial and neutral markets in certain lines of trade in which German and Austrian or Hungarian manufacturers and merchants have hitherto transacted a large proportion of the business.

The present safety of the trade routes, coupled with the protection afforded by the State Scheme of War Risk Insurance, and the financial measures taken by his Majesty's Government to facilitate the continuance of business transactions, should enable this to be done to a very considerable extent, in view of the fact that German and Austro-Hungarian trade with oversea countries must necessarily be at a standstill.

It is evident that such a course will be of the greatest immediate benefit to the employment of workmen in the United Kingdom, and that it may also lead to the permanent advantage of British trade.

With a view to giving assistance to British manufacturers and traders in this matter memoranda have been prepared giving information with regard to possible developments in certain important trades.

Any British manufacturer or merchant who desires to be furnished with more detailed information as to openings affecting his particular business should put himself in communication with the Director of the Commercial Intelligence Branch of this Department, Basinghall-street, E.C., who will be prepared to give any further particulars possible respecting names of buyers, rates of import duty, etc., or to make special inquiries through H.M. Trade Commissioners and the Trade Correspondents of the Commercial Intelligence Branch in the British Self-Governing Dominions, India, and the other colonies and Protectorates, or through British Consular Officers in neutral foreign countries."

A BUILDER'S ESTATE.

Mr. Haynes Bradford, of Clough-road, Rotherham, builder and contractor, left estate of the gross value of £28,007, with net personalty £21,190.

HOUSES, PARK-ROAD, N.W.

Three detached, double-fronted, private houses are in course of erection in Park-road, Regent's Park. The architect is Mr. S. H. Burdwood, Licentiate R.I.B.A., York-place, Portman-square, W., and the general contractor is Mr. James Easton, Worcester Works, Charles-street, Barnsbury, N.

PROPOSED NEW BUILDINGS AND OTHER WORKS.*

IN these lists care is taken to ensure the accuracy of the information given, but it may occasionally happen that, owing to building owners taking the responsibility of commencing work before plans are finally approved by the local authorities, "proposed" works, at the time of publication, have been actually commenced. Abbreviations:—T.C. for Town Council; U.D.C. for Urban District Council; R.D.C. for Rural District Council; E.C. for Education Committee; L.G.B. for Local Government Board; B.G. for Board of Guardians; L.C.C. for London County Council; B.C. for Borough Council; and P.C. for Parish Council.

ABINGDON.—The T.C. have decided to apply for sanction to borrow £1,000 odd for the extension of water mains and purchase of water meters for Radley-road, Faringdon-road, and Norman-avenue, where villas are being built.

Banbury.—Plans passed by T.C.:—For additions to 32, Southam-road for Mr. A. W. Sturley; for four houses in Warwick-road for Mr. C. F. Brooke; for a new timber drying shed at their works for Messrs. Samuelson & Co., Ltd.; for two houses in Broughton-road for Mr. B. R. Morland.

Biggleswade.—The B.G. have decided to carry out alterations to the workhouse laundry.

Birstall.—Plans passed by U.D.C.:—Dwelling-house in Fieldhead-lane for Mr. Thomas Simpson; house at Drighlington for Messrs. D. Liley & Co.; twelve dwelling-houses at Howden Clough, by Messrs. J. Akeroyd & Son.

Burton-on-Trent.—The T.C. have decided that an application be made to the L.G.B. for sanction to borrow £30,000 for the duplication of the sewage rising main.

Cambridge.—The T.C. have decided to seek sanction to borrow £3,000 for the erection of cottages in Victoria-road.

Cannock.—Plans passed by U.D.C.:—Four houses, Mount-street, Hednesford, for Mr. S. Robinson; two houses, Old Fallow-road, Cannock, for Mr. B. Reynolds; house and shop, Market Hall-street, Cannock, for Mr. S. Lloyd; and house, High Mount-street, Hednesford, for Mr. T. C. Longstaff.

Chadderton.—Plans passed by U.D.C.:—Gorse Mill, Ltd., Gorse Mill No. 2, Whitegate-lane; Myrtle Mill, Ltd., Myrtle Mill, Hamilton-street; Oldham Corporation, alteration of Lois-street; Mr. Frederick Lees, ten houses in Stanley-road.

Colwell.—Alterations at the Crown Inn, and house at Blackshell, Little Kimbleton, for Mr. Barry Jackson.

Consett.—Plans passed:—Alteration to premises, 89, Sherburn-terrace, Consett, for Mr. J. Cummings; alterations to the Wheat Sheaf Inn, Consett, for Mr. T. Burns; and conversion of Delves Lane Colliery Offices into cottages for the Consett Iron Company.

Cullen.—House in Blantyre-road for Mr. J. Findley, of 30, Reidhaven-street.

Darlington.—Plans approved by the T.C.:—Messrs. Clark & Moscrop, additions to 65, Upper Victoria-street; Mr. J. E. Chilton, house in Bracken-road, and new streets, Woodlands-road; Messrs. Hoskins & Brown, new streets in Yarm-road; Mr. J. G. Critchley, warehouse in Orchard-road; Mr. T. Boyd, house in Linden-avenue; Messrs. G. Dickinson & Son, alterations to premises in Haughton-road and house in Arkendale-street; Messrs. Taylor & Minor, alterations to premises in Post Housewynd.

Dorchester.—Plans have been passed for alterations to premises in Cornhill for the London City and Midland Bank.

Depwade.—The L.G.B. have authorised the B.G. borrowing £1,800 for drainage works at the hospital.

Durham.—Plans passed by the T.C.:—County Hospital, operating theatre; Mr. J. Lynch, North-road, alterations to shop windows, etc. Plans passed by R.D.C.:—Messrs. Thompson & Dennison, two dwelling-houses, Coxhoe, and dwelling-house, Quarrington Hill; Mr. R. H. Ward, dwelling-house at Neville's Cross.

East Elloe.—The R.D.C. have considered plans for the erection of houses at Gedney Hill and Sutton St. James. The designs of Mr. Waterman, of Fleet, and of Mr. W. H. Davis, of Wisbech, were accepted.

Edinburgh.—The Dean of Guild Court has granted warrant to the Edinburgh Provincial Association for the erection of new hostels for women students at East Craigmillar Park, Edinburgh. The buildings are to cost £40,000. They are three in number, and are part of a scheme of seven hostels, the remaining four of which will be built as required. The grounds will be laid out in hockey pitches and tennis courts. Each student will have a study bedroom, and there will be a dining-room, a library, and a large drawing-room, besides numerous bath-rooms. Warrant has also been granted for the erction of new halls in connection with Nicolson-square Wesleyan Methodist Church, Edinburgh. The cost of the buildings will be £5,000. They will consist of a hall for 400 persons, a smaller hall for 180, and eight classrooms.

Foleshill.—Plans for four houses in Spring-road, Foleshill, for Mr. H. Whiteman, have been passed by the R.D.C., who have also approved of plans prepared by the Surveyor for sewerage works at Bedworth, estimated to cost £584.

Glasgow.—Warrants granted by the Dean of Guild Court:—Glasgow Corporation, to erect a new approach to Kelvingrove Art Galleries and to erect two pavilions in Springburn Park; Thomas Hinshelwood & Co., Ltd., to make additions to their colour factory in Glenpark-street; James Richmond & Sons, coopers, to erect a workshop at 80, Glenpark-road; George M'Lellan & Co., Glasgow Rubber Works, Maryhill, to erect additions to the works in Shuna-street; Scotstoun Estate Building Company, 86, Park-drive South, Whiteinch, to erect buildings on the south-east side of Norse-road, Scotstoun. Glenconner Park, the 13 acres of ground at Garngad-road gifted to the city by Lord Glenconner, is to be laid out at a cost of £2,973, of which £1,000 is to be borne by his lordship.

Harrogate.—Plans passed:—The George Hotel Company (Harrogate), Ltd., milk store at the rear of the George Hotel in Ripon-road; the National Provincial Bank of England, Ltd., alterations to "The Mount" in Park Drive; Harrogate Gas Company, chimney-shaft at the gasworks; Mr. R. Airton, pair of semi-detached villas in West End-avenue; Mr. J. Chippindale, alterations to The Grove, East Parade Estate; Mr. J. Chippindale, nine houses in The Grove; Mrs. L. Scharff, motor house at Duchy-road; one house in Albany-road for Mr. E. S. Latham; one house in Lynton-gardens for Mr. J. H. Owston.

Haslemere.—It has been decided to enlarge the Haslemere garden suburb by the erection of fifteen cottages. This scheme of cottage building is conducted on co-partnership lines by a local company, of which Mr. Aneurin Williams, M.P., is chairman.

Hastings.—Plans passed:—New lavatory accommodation at The Hospice, St. Mary's School, Baldslow; the Rev. Mother Superior, owner, Mr. H. W. Coussens, architect; alterations at 1 and 3, Nelson-road; Messrs. Pain Bros., owners, Mr. H. W. Coussens, architect; additions to 14, Stanhope-place; Mrs. Beck, owner, Mr. H. S. Parsons, architect; stable at 64, Canute-road; Mr. G. R. Everitt, owner.

Holmfirth.—The U.D.C. have resolved that Mr. Norman Brown, architect, prepare plans of ten houses of the least costly type on the Council's land fronting Newmill-road.

Hendon.—Plans passed by R.D.C.:—New roads and houses, Burnt Oak Estate, for Messrs. Hamiltons.

Hindhead.—It has been decided to proceed with the building of the second part of St. Albans Church.

Horsham.—Alterations to the Bungalow, St. Leonard's-road, for Messrs Hoad & Taylor; alterations at Craven Lodge, Wimblehurst-road, for Miss Churchman.

Houghton—Plans passed by R.D.C.:—Two houses at Herrington Burn for Mr. G. McCall; two houses, double-tenemented, at Mill Pit, Herrington Burn, for Mr. P. J. Gillride; two houses at Shiney Row for Mr. G. McCall; two houses at Market-street, Silksworth, for Messrs. J. & W. Hodgson; a house and shop for Mr. T. Hodgson; shop and alterations to house at Pit House-lane, Leamside, for Mr. F. Sibbon; double shop and dwelling-house at Grasswell for Mr. F. W. Hunter; institute at New Herrington for the Rev. R. E. Parr; and four houses at Herrington Burn for Messrs. Young & Adams.

Kirkby.—Plans passed by U.D.C.:—Miss Holmes, one dwelling-house, Clumber-street; Mr. H. Blackburn, two dwelling-houses, Welbeck-street; Mr. J. Stow, three dwelling-houses, Unity-street.

Lanchester.—Plans passed:—Fifty-one houses at Langley Park for the Consett Iron Company; dormer windows for eighty-four houses at Esh; amended plans for forty houses at Craghead for Hedley Bros.; two houses at Ebchester for Mr. Cawthorne; and three pairs of semi-detached houses at Consett Park-terrace, Castleside.

Lepton.—Plans for eight houses at Peace Hall and a residence in Wakefield-road approved.

Lichfield.—Alterations and additions to Gaia Field House for Mr. G. S. Russell.

Linthwaite.—Plans for seven houses in Mountain-street, Milnsbridge, for Mr. B. S. Butterworth, passed.

Mansfield-Woodhouse. — Plans passed by U.D.C.:—Six dwelling-houses and premises for Mrs. M. E. Frisby in Morven-avenue; three dwelling-houses and premises for Mr. A. Head in Morven-avenue.

Market Bosworth.—Plans passed for a house at Desford for Mrs. Ison, and a parochial room at Shaw-lane.

Middlesex.—The C.C. have decided to proceed with the construction of the Great West Road by direct labour, and has left it to the Highways Committee to carry out the work.

Milngavie.—The Dean of Guild Court has passed the plans of Messrs. S. W. Dunlop & F. S. Jones, 63A, St. Vincent-street, Glasgow, for tenements of dwelling-houses, with shops and picture-house, on the vacant ground adjoining the Milngrave bowling green at Station-road. The architect of the building is Mr. Neil C. Duff, F.R.I.B.A.

Newport.—The T.C. have decided to proceed with the purchase of the Somerton Estate on which to erect 100 workmen's houses.

Oakham.—Plans passed by the U.D.C.:—Master's house in the school grounds facing Church-street; four houses on Brooke-road for Mr. John Hibbitt.

Oswestry.—New building on Salop-road for Mr. T. H. Ellis.

Prudhoe.—Two houses and shops on West-road for Mr. W. Hall.

Runcorn.—The L.G.B. have sanctioned the borrowing by the R.D.C. of £410 for the construction of a sewer from Ship-street to Main-street, Frodsham.

St. Annes.—Plans passed by the U.D.C.:—Motor garage for the Lytham and St. Annes Golf Club, Dormy House, St. Patrick's-road, South; block of eight houses for Mr. J. H. Sharp, St. David's-road, North.

Saltburn.—A plan for a new congregational school has been approved by the U.D.C.

Shardlow.—The B.G. have decided to carry out alterations to the workhouse estimated to cost £7,645.

Sheffield.—The chapel, mortuary aisle, superintendent's house and offices, shelter, workmen's messroom, toolhouse, men's and women's conveniences at Abbey Lane Cemetery, to be erected by the T.C., are estimated to cost £6,965. It is proposed to ask for sanction to borrow £14,960 for the Hillsborough and Walkley baths and public conveniences.

Slough.—Plans passed for four houses in Alexandra-road for Mr. N. Grove, four in Wellington-street for Mr. Woolsey, two for Mr. T. Perrin, and two in Henry-road for Mr. J. Hibberd.

Stanley.—Plans for sixty-five building sites at Shield Row for the owners of the Beamish Estate, and of nine houses on the estate of Messrs. Elvin & Hastie are before the U.D.C. Plans for two houses in Smailes-street for Mr. R. Cunningham have been passed.

Stoke-on-Trent.—The L.G.B. have held an inquiry into the application of the T.C. to borrow various sums for public works consisting of £3,122 in respect of alterations to Longton Town Hall; £1,050 for the purchase of land in Cromer-road, Hanley, for the purposes of a refuse destructor; and £11,113 for works of paving and surface-water drainage in Waterloo-road, Wedgwood-street, and Scotia-road, Burslem.

Swadlincote.—Shop in High-street for Mr. J. Woodward.

Torpoint.—The St. Germans B.G. have decided to apply to the L.G.B. for sanction to borrow £800 for the erection of a home for children.

Wakefield.—The B.G. have decided to erect a children's block to accommodate thirty-two patients at the workhouse infirmary, and another block to accommodate sixteen male tuberculosis patients. The children's section will cost £2,750, and the other £1,060. Further additions to the infirmary, to bring the number of beds up to 200, will cost £327.

Ware.—Plans passed by the R.D.C.:—Cottage at Wadesmill for Mrs. Harrison; two cottages at Widbury Hill for Mr. J. H. Buxton.

Whitehaven.—Alterations to Y.M.C.A. rooms.

Yarmouth.—The T.C. propose seeking sanction to borrow £1,600 for an extension of Caister Cemetery etc., and £5,000 for paving works. The L.G.B. have sanctioned the borrowing of £1,300 for quay construction on the River Bure.

* See also our list of Competitions, Contracts, etc. on page 203.

TRADE NEWS.

Claridge's asphalt is being used on the new building of the Institute of Chemistry, Russell-square, W.C.

Under the direction of Mr. Arthur J. Stedman, Licentiate R.I.B.A., architect, Farnham, Surrey, Boyle's latest patent "air-pump" concealed ventilators have been applied to Bentley Schools.

The Doncaster and Mexborough Joint Isolation Hospital is being supplied with Shorland's double-fronted warm-air ventilating patent Manchester hospital stoves by Messrs. E. H. Shorland & Brother, Ltd., of Failsworth, Manchester.

Messrs. Waygood are among many first-rate firms who see no reason to think that the normal course of building will suffer in the present circumstances, and whose output will be as large as usual. It will probably be found after the present crisis that the firms who have the courage of their convictions will have increased their hold on the goodwill and respect of the public. The last thing which can be dispensed with is that the excellence of which is undoubted.

Messrs. C. Jennings & Co., 927, Pennywell-road, Bristol, inform us that their works are running full time, manufacturing woodwork of every description as per usual, and that their depôts in various parts of the United Kingdom are open to supply timber and woodwork of every description, holding large stocks of timber and plywood and manufactured woodwork ready for prompt dispatch for home or export.

We learn that Messrs. Ashwell & Nesbit, Ltd., of Leicester, have been working day and night during the last fortnight to execute the cooking apparatus for the 5th Northern Military Hospital, and that this firm are also busy with the installations for heating and hot-water service work.

The Marquis of Winchilsea has accepted the tender of Messrs. Ashwell & Nesbit, Ltd., of Leicester, for the supply and erection of "Eradica" patent domestic water softener at Haverholme Priory.

We understand that all the basement concrete floors in the Nurses' Home, South Manchester Guardians, Withington, have been treated with the powder Pudlo, which makes cement waterproof, to prevent rising dampness.

In our issue of May 29 we announced that Messrs. Samuel Haskins & Bros., Ltd., of Old-street, E.C., had been entrusted with the reconstruction of the building of Messrs Lewis's, of Manchester. We are informed that the firm in question are not concerned with the reconstruction, but are erecting the new shop fronts, which, with the new building, have been designed by Messrs. J. W. Beaumont & Son, of Manchester. The interior fittings are being designed by Samuel Haskins & Bros.

List of Competitions, Contracts, etc.

For some contracts still open, but not included in this List, see previous issues. **Those with an asterisk (*) are advertised in this number:** Competitions, —; Contracts, iv. vi. viii. x.; Public Appointments, xviii.; Auction Sale, xx. Certain conditions beyond those given in the following information are imposed in some cases, such as: the advertisers do not bind themselves to accept the lowest or any tender; that a fair wages clause shall be observed; that no allowance will be made for tenders; and that deposits are returned on receipt of a bona-fide tender unless stated to the contrary.

The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in.

*** It must be understood that the following paragraphs are printed as news, and not as advertisements; and that while every endeavour is made to ensure accuracy, we cannot be responsible for errors that *may* occur.

Competitions.

SEPTEMBER 1.—**Batley.**—COUNCIL SCHOOL.—The Batley E.C. invite architects, resident or practising in Batley, to submit designs for proposed Council school at Healey.

SEPTEMBER 1.—**Liverpool.**—ESTATE.—Laying-out estate for the Parks and Gardens Committee of the Corporation. Premiums, 100 guineas, 50 guineas, and 25 guineas. Town Clerk, Town Hall, Liverpool. Deposit, £1 1s.

SEPTEMBER 7.—**London.**—SCHOOLS.—**The L.C.C.** invite architects to submit designs for two new schools. See advertisement and full particulars in issue of May 1.

SEPTEMBER 10. — **Gateshead.** — SCHOOL.—The Gateshead E.C. invite designs for a new school for 700 scholars. See particulars in our issue of August 14.

SEPTEMBER 15. — **Not mentioned.**—NATIONAL THEATRE.—The Shakespeare Memorial Committee invite architects to submit photos and drawings of important buildings they have erected, with a view to the selection of six to enter a competition. The authors of five designs selected will receive a premium of 150 guineas each, and the author of the design placed first will receive a premium of 500 guineas. See advertisement in issue of July 24.

SEPTEMBER 18. — **Glasgow.** — BUILDINGS.—The Corporation invite from architects competitive plans of buildings proposed to be erected at the north-west corner of Trongate and High-street. Premiums of £50, £30, and £25 respectively will be awarded to the authors of the designs adjudicated first, second, and third, in order of merit. Plan of the site, along with a copy of the terms and conditions of the competition, of Mr. J. Lindsay, Town Clerk, City-chambers, Glasgow. Deposit, £1 1s. See particulars in our issue of July 10.

OCTOBER 31.—**Adelaide, South Australia.**—LAYING-OUT SHOW GROUNDS.—Premiums, £500, £200, and £100. Secretary, Royal Agricultural and Horticultural Society of South Australia, 23, Waymouth-street, Adelaide, South Australia.

OCTOBER 31.—**St. Helens.**—POLICE BUILDINGS AND FIRE STATION.—The St. Helens C.B. invite competitive designs for the above buildings. Premiums, £100, £50, and £25. See advertisement in our issue of July 10.

JANUARY 15, 1915.—COLLEGE MEMORIAL LECTURE HALL.—Designs for the Alexander Thompson Travelling Studentship must be delivered by the above date. See advertisement in issue of January 30.

Contracts.

BUILDING AND PAINTING.

The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in.

AUGUST 22. — **West Thurrock.** — COTTAGES.—For the erection of fourteen cottages for the Orsett R.D.C. Persons desiring to tender to send names to Mr. F. J. Winter, architect, 2, Heygate-avenue, Southend-on-Sea, by August 22. Tenders returnable by September 23. Deposit, £2 2s.

AUGUST 24. — **Bettws-y-Coed.** — WALLS, ETC.—(1) Erection of walls, etc., for new house near Bronheulog for the Bryn Mawr C.M. Chapel; (2) for making road to new house. Mr. J. T. Rees, 2, Oak-view, Bettws-y-Coed.

AUGUST 24.—**Dublin.**—VELARIUM.—For the removal of the existing silk velarium in the Round Room, Mansion House, and the supply and fixing of a new velarium, according to a specification prepared by the City Architect. Specification of Mr. Edmund W. Eyre, City Treasurer, Dublin.

AUGUST 24.—**Hendon.**—FENCING.—Supply and erection of about 337 yds. run of approved split chestnut pale fencing on the north-east side of the Council's Allotments, Cool Oak-lane, Hendon. Forms of tender at the Engineer and Surveyor's Department, Council Offices, Hendon, N.W.

AUGUST 24.—**Llanhilleth.**—HOUSES.—Erection of twenty houses in Central-road, Llanhilleth, for the Central-road Building Club. Specifications of Mr. N. G. Lewis, architect, Abertillery.

AUGUST 24. — **Nottingham.**—PAINTING, ETC.—External cleaning and painting of (1) Town Arms Inn and Boathouse, Trent Bridge; (2) Union Inn and Café, Trent Bridge; (3) No. 17, Park-row; (4) Kent-street, Millstone-lane, Rick-street, and Howard-street; (5) eighty-six cottages, Coppice-road Cromer-road, and Chandos-street; (6) Newthorpe Farm buildings. Quantities from Mr. A Dale, City Architect, Guildhall. Deposit, £1 each contract.

AUGUST 25. — **Birmingham.** — SCHOOL.—For erection of Council school in Ryland-road, Erdington, for the Birmingham E.C. Applications for quantities by August 25 to the Education Office, Council House. Tenders returnable September 15. Deposit, £2.

AUGUST 25. — **Cardiff.** — REPAIRS, ETC.—For (1) renovations at 15, Northcote-street; (2) renovations and repairs at Church-terrace; (3) erection of railings and wall and renovations at the Workhouse for the B.G. Specifications of Mr. A. J. Harris, Clerk, Union Offices, Queen's-chambers, Cardiff.

AUGUST 26. — **Glamorganshire.** — VARIOUS WORKS.—The Glamorgan C.C. invite tenders for (1) alterations and additions to the Council school at Seven Sisters, near Neath; (2) alterations to playground, etc., at the Council school at Llangefelach, near Swansea; (3) laying-out grounds at the Training College at Barry; (4) boundary wall at Council school at Glyn-Neath; (5) converting temporary building at Cwmaber Council School for cookery and manual instruction; (6) converting temporary building at Heolyciw Council School for cookery and manual instruction. Quantities of Mr. T. Mansel Franklen, Clerk, Glamorgan County Hall, Cardiff.

AUGUST 26. — **Hull.**—PAINTING.—For painting interior of Market Hall. Form of tender of Mr. A. E. White, City Engineer, Guildhall, Hull.

AUGUST 26. — **Keighley.** — PAINTING. — For painting of the outside wood and ironwork gates, etc., on the Ovenden, Holdsworth, Wheatley, and Bankfield estates. Specifications of Messrs. Ackroyd & Sons, Estate Agents, Burlington-chambers, Keighley.

AUGUST 26. — **Leeds.** — PAINTING. — For the painting work required at various parks, recreation grounds, and cemeteries. Specifications of Mr. W. T. Lancashire, City Engineer, Municipal Buildings, Leeds.

AUGUST 27. — **Huddersfield.** — HOUSES.—The Corporation of Huddersfield invite tenders for the conversion of the Lockwood, Moldgreen, and Deighton Police-stations into dwelling-houses. Quantities of Mr. K. F. Campbell, M.Inst.C.E., Borough Engineer and Surveyor, 1, Peel-street.

AUGUST 27. — **Wigan.** — GREENHOUSES.—For erection of four greenhouses at Mesnes Park for the Corporation. Quantities of Mr. A. T. Gooseman, Borough Engineer, King-street West, Wigan.

AUGUST 29.—**Bristol.**—PAINTING.—For painting the exterior of buildings at Stapleton Workhouse and at the Downend Homes. Specifications of Mr. J. J. Simpson, Clerk to the Guardians, St. Peter's Hospital, Bristol.

AUGUST 29. — **Goole.**—PAINTING.—For exterior painting of four cottages for the U.D.C. Particulars of Mr. J. Fazakerley, Gas and Waterworks Manager, Goole.

SEPTEMBER 1.—**Leicester.**—ADDITIONS, ETC.—Erection of open-air classrooms, additions, etc., at the Corporation Isolation Hospital, Anstey-lane, near Leicester. Quantities of the Surveyor to the Education Committee, Town Hall. Deposit, £1 1s.

SEPTEMBER 2. — **Manchester.** — ALTERATIONS.—For alterations to the cook-house, etc., at the infirmary of the Crumpsall Institution for the B.G. Quantities of Mr. A. J. Murgatroyd, architect, 23, Strutt-street, Manchester. Deposit, 10s. 6d.

* SEPTEMBER 3.—**Wandsworth.**—EXTENSION OF MORTUARY.—The Wandsworth Guardians invite tenders for alterations and extensions to the mortuary.

* SEPTEMBER 5.—**Northwood.**—KEEPER'S LODGE AND LAVATORIES.—The Ruislip and Northwood U.D.C. invite tenders for erection of keeper's lodge and lavatories.

* SEPTEMBER 7.—**West Ealing.**—ENLARGEMENT OF SORTING OFFICE.—The Commissioners of H.M. Works, etc., invite tenders for enlargement of West Ealing Sorting Office.

* SEPTEMBER 8.—**Birmingham.**—ENLARGEMENT OF TELEPHONE EXCHANGE.—The Commissioners of H.M. Works, etc., invite tenders for enlargement of the telephone exchange.

* SEPTEMBER 8.—**Ilford.**—BOUNDARY WALLING.—The Ilford U.D.C. invite tenders for erection of boundary walling appertaining to the refuse destructor.

SEPTEMBER 9.—**Bedford.**—COTTAGES.—Erection of six cottages for the working classes for the Bedford R.D.C. Specifications at the office of the R.D.C., No. 115, High-street, Bedford. Deposit, £1 1s.

SEPTEMBER 12. — **Cofadail.** — PAINTING.—For external painting, etc., of the Cofadail Council School House for the Cardiganshire E.C. Mr. G. Dickens-Lewis, County Architect, Aberystwyth.

SEPTEMBER 16.—**Bradford.**—DWELLINGS.—Erection of eight workmen's dwellings complete on the Esholt Estate, Thackley, at a price not exceeding £225 per house complete, including back road sewers, and drains, but exclusive of cost of land, for the Bradford Corporation. Particulars at the Estate Office, Esholt Hall, near Shipley.

* SEPTEMBER 16.—**Sutton Bonington.**—AGRICULTURAL AND DAIRY COLLEGE.—The Governors of the Midland Agricultural and Dairy College invite tenders for erection and completion of various parts of the College.

NO DATE.—**Blackburn.**—PAINTING.—Interior decoration of the cottage homes at Queen's Park. Specifications of Mr. Chas. E. Bygrave, Clerk to the Guardians, Union Offices, Cardwell-place, Blackburn.

NO DATE.—**Leeds.**—ALTERATIONS, ETC.—For the various trades (except painters) required in alterations and additions to "The Orchards" at Bramham. Applications to Mr. Chas. D. Swale, architect, 5, Cabinet-chambers, Basinghall-street, Leeds.

NO DATE. — **Salford.** — WALL.—For rebuilding boundary wall at Church-street Depôt, Pendleton. Particulars of the General Manager, Tramway Offices, 32, Blackfriars-street, Salford.

FURNITURE, MATERIALS, etc.

AUGUST 24. — **Wigan.** — MATERIALS.—Supply to the Corporation of granite cubes and setts and tramway rails. Quantities from Mr. A. T. Gooseman, Borough Engineer, King-street, West, Wigan.

AUGUST 29. — **Warrington.** — FIRE ENGINE APPARATUS.—Supply and delivery of an extension ladder for the motor fire engine of the Corporation. Specifications of the Fire Superintendent, Fire Station, Warrington.

AUGUST 31. — **Bradford.** — STORES.—For one year's supply of stores to the Gas Committee. Forms of tender of Mr. C. Wood, Gas Engineer, Town Hall, Bradford.

AUGUST 31.—**Chelsea.**—MATERIALS.—Supply for six or twelve months to the Guardians of ironmongery, etc. Forms of tender of Mr. C. W. Shepherd, Clerk, 250, King's-road, Chelsea, S.W.

SEPTEMBER 1. — **South Mimms.** — ROAD MATERIALS.—Supply to the South Mimms R.D.C. of 1,000 tons of granite and 100 tons of chippings, 500 tons of gravel, 120 tons of hoggin, and 6,000 gallons of distilled tar. Forms of tender of Mr. G. Simcox, Surveyor, Bearwood, Great North-road, Potters Bar.

SEPTEMBER 9. — **Aberdare.**—STORES.—Supply of stores to the Powell Duffryn Steam Coal Company. Forms of tender of the Stores Manager, Aberaman offices, near Aberdare.

SEPTEMBER 21. — **London.** — CREOSOTING.—For creosoting, etc., telegraph poles, for the General Post Office. Forms of tender of Mr. G. Morgan, Controller of Stores, Post Office, Stores Department, 17-19, Bedford-street, London, W.C.

NO DATE. — **Galway.** — TOOLS.—Supply to the Galway C.C. of road-making tools, including picks, shovels, sledges, etc. Mr. W. G. Seymour, Secretary, Court-house, Galway.

ENGINEERING, IRON, AND STEEL.

AUGUST 25. — **Cardiff.** — HEATING.—For provision of hot-water heating arrangements in No. 19 Block of the Workhouse for the Cardiff B.G. Specifications of Mr. A. J. Harris, Clerk, Union Offices, Queen's-chambers, Cardiff.

* AUGUST 26.—**London, N.**—BRIDGES.—The Guardians of St. Leonard, Shoreditch, invite tenders for work required to be done in connection with bridges at Infirmary, 204, Hoxton-street, N.

AUGUST 26. — **Sudbury.** — PUMPING PLANT.—Supply to the Sudbury, Suffolk, Corporation of waterworks pumping plant and buildings. The plant must be capable of supplying 16,000 gallons per hour to the reservoir. Particulars of Mr. W. I. Tait, A.M.Inst.C.E., Waterworks Engineer, Town Hall, Sudbury, Suffolk. Deposit, £2 2s.

SEPTEMBER 2.—**Melbourne.**—RAILS.—Supply to the Agent-General of Victoria of 29,050 tons of 80lb. steel rails and 1,521 tons of fishplates. Specifications of Messrs. J. Coates & Co., consulting engineers, 115, Victoria-street, Westminster, S.W.

[Those with an asterisk (*) are advertised in this issue.]

ENGINEERING, etc.– *continued.*

The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in

SEPTEMBER 3.—**Southwark.**—VARIOUS.—For (1) supplying and erecting mild steel plate partitions at St. George's Institution for the Southwark Board of Guardians. (2) Regalvanising nineteen washing troughs and supplying three galvanised iron bins. (3) Providing and fixing new hot-water boiler and cistern and renewing hot-water pipes at the Children's Home. Specification of Mr S. Wood, Clerk, Union Offices, Ufford-street, Blackfriars-road, S.E.

SEPTEMBER 5.—**Ballymena.**—HEATING, ETC.—For (*a*) alterations to existing and installing new heating apparatus at Ballymena Workhouse, and (*b*) domestic hot-water boiler, storage cylinder, and steam pipes to cooking apparatus. Specification of Mr. E. D. Brown, 93, Adam-street, Belfast. Deposit, 10s. 6d. for each contract.

SEPTEMBER 12.—**Middlesbrough.**—PUMPING PLANT.—Supply to the Corporation and erection of three electric motor-driven sewage pumps, priming pumps, metering arrangement, pipe work, and overhead travelling crane. Specification from Mr. H. M. Taylor, Borough Electrical Engineer, Snowdon-road, Middlesbrough. Deposit, £2 2s.

OCTOBER 4.—**Toronto.**—BRIDGE.—For construction of bridge of five steel arch spans, with piers and approaches across the Don Valley for the Toronto Department of Works. Specification of the Commissioner of Works, Toronto. Charge, $25.

NO DATE.—**Hamilton.**—BOILER.—For erection at Parkhead Home of Cornish boiler, with mountings, two calorifiers for heating installation, and chimney-stack. Specifications of Mr. J. C. Pollok, solicitor, Hamilton.

NO DATE.—**Kelloe.**—LIGHTING.—For the erection of poles, wires, and lamps for the lighting of Kelloe Parish. Specifications, Mr. Anderson, Southern Laws, Trimdon Grange.

ROAD, SANITARY, AND WATER WORKS.

AUGUST 22.—**Hexham.**—SEWERAGE.—For execution of sewage disposal scheme for Riding and Broomhaugh for the Hexham R.D.C. Names to be sent in to Messrs D. Balfour & Sons, civil engineers, 3, St. Nicholas-buildings, Newcastle-on-Tyne, by August 22. Tenders returnable on September 2. Deposit, £5.

AUGUST 24.—**Chorley.**—SEWER.—For construction of about 120 yds. of 9-in. sewer, etc., in Spendmore-lane. Particulars of Mr. A. Jolly, Surveyor, 9, High-street, Chorley.

AUGUST 24.—**Halifax.**—ROADS.—For grouting with pitch or other approved material about 30,000 super. yds. of granite macadam in Wakefield-road, Halifax. Specifications of Mr. James Lord, Borough Engineer, Town Hall, Halifax.

AUGUST 24.—**High Wycombe.**—REFUSE DESTRUCTOR.—Supply to the Corporation of two cell refuse destructors. Particulars of Mr T. J. Rushbrooke, Borough Engineer, 25, Easton-street, High Wycombe.

AUGUST 24.—**Margam.**—DRAINAGE.—For provision of drainage to new gas works site for the Margam U.D.C. Quantities of Mr. D. E. Jones, Clerk, Avonside-chambers, Port Talbot. Deposit, 10s. 6d.

* AUGUST 25.—**Fulham.**—ROAD-MAKING.—The Fulham B.C. invite tenders for making up and paving section 1 of Imperial-road.

AUGUST 25.—**Swansea.**—STREET WORKS.—For private street works in Alice-street, Phillis-street, Megan-street, Sadler-street, and Soar-terrace. Quantities of Mr. G. Bell, Borough Surveyor, 13, Somerset-place, Swansea.

AUGUST 25.—**West Hartlepool.**—GARDENS, ETC.—For the construction of Back Wynnstay Gardens and a portion of Acclom-street for the Corporation. Quantities of Mr. N. F. Dennis, Borough Engineer, West Hartlepool.

* AUGUST 25.—**Willesden.**—ROAD-MAKING AND PAVING.—The Willesden District Council invite tenders for road-making and paving works

AUGUST 26.—**Bristol.**—CULVERT.—Construction of a new concrete invert to a portion of the culverted bed of the River Frome, and for the underpinning and strengthening of the side walls, etc., for the Bristol Corporation. Specification of Mr. W. W. Squire, Docks Engineer, Cumberland-road, Bristol Deposit, £2.

AUGUST 31.—**Birstall.**—STREET WORKS.—For making-up North-terrace for the Birstall U.D.C. Specifications of the Council's Surveyor, Mr. T. H. Hailstone, M.Inst.M. and C.E., Council Offices, Birstall.

AUGUST 31.—**Garnant.**—ROADS.—For widening and improving the main road at Garnant for the Carmarthenshire C.C. Quantities of Mr. Gower Henry, County Surveyor, Shire Hall, Llandilo. Deposit, £1 1s.

AUGUST 31.—**Sowerby.**—SEWERAGE WORKS.—For construction of about 4,500 yds. of main sewers required in sewering Sowerby Town, Boulderclough, and Broad-lane for the Sowerby U.D.C. Names to the Engineers, Messrs. Utley, Hebblethwaite, & Utley, 10, Waterhouse-street, Halifax. Deposit, £2 2s.

SEPTEMBER 1.—**Shrewsbury.**—SEWER.—For laying, etc., 530 lineal yds. of 12-in. pipe sewer, etc. Quantities of Mr. A. W. Ward, Borough Surveyor, The Square, Shrewsbury.

* SEPTEMBER 2.—**Hove.**—STREET WIDENING.—The Hove B.C. invite tenders for various works in connection with the widening of Hove-street.

SEPTEMBER 2.—**Manchester.**—ASPHALTING.—For asphalting the corridors at the infirmary of the Crumpsall Institution for the Manchester B.G. Specifications of Mr. A. J. Murgatroyd, Architect, 23, Strutt-street, Manchester. Deposit, 10s. 6d.

SEPTEMBER 2.—**Manchester.**—PAVING.—For paving the labour yard at the Crumpsall Institution for the Manchester Board of Guardians. Specifications of Mr. A. J. Murgatroyd, Architect, 23, Strutt-street, Manchester. Deposit, 10s. 6d.

SEPTEMBER 5.—**Sheffield.**—BOWLING GREEN.—Construction of a bowling green at Parkwood Springs Recreation Ground for the Corporation. Particulars of the City Engineer, Town Hall, Sheffield.

SEPTEMBER 8.—**Clutton.**—STEAM ROLLING.—For the steam rolling and scarifying required on the main and district roads of the R.D.C. during the year ending September 30, 1915. The mileage of the main roads is about forty-four miles, and of the district roads about 190 miles. Specifications from Mr. J. Sumner Dury, Clerk, Temple Cloud, Bristol.

SEPTEMBER 9.—**Rhymney.**—SEWER.—The Rhmney Valley Sewerage Board invite tenders for main outfall sewer, about 10 miles long, varying from 42 in. to 30 in. in diameter, of concrete brickwork and cast iron, together with various works, commencing near Cefn-Llwyd Bridge, in the parish of Llanvedw, and extending to a point about 1 mile south of Ystrad Mynach. Quantities of Messrs. Willcox & Raikes, MM.Inst.C.E., 9, Victoria-street, Westminster, and of Mr. T. J. Thomas, 36, High-street, Bargoed, Glam.

SEPTEMBER 14.—**Altrincham.**—SEWERS.—Construction of surface-water sewers in the East Ward of the district for the Altrincham U.D.C. Quantities from Mr. Harry E. Brown, Surveyor, Town Hall, Altrincham.

Public Appointments.

* AUGUST 25.—ASSISTANT ROAD SUPERINTENDENT.—The Willesden Council invite applications for above post. Salary, £3 13s. 6d. per week.

* AUGUST 27.—ASSISTANT INSTRUCTOR IN WOODWORK.—The L.C.C. invite applications for the above post. Salary £80, rising to £120.

* AUGUST 29.—CLERK OF WORKS.—The Walsall Corporation invite applications for the above post. Salary, £4 per week.

* SEPTEMBER 7.—LIGHTING FOREMAN.—The Kensington B.C. invite applications for the above post. Salary, £3 per week

Auction Sale.

* AUGUST 26.—Messrs. Churchill & Sim will sell by auction, at the Great Hall, Winchester House, Old Broad-street, E.C., an assortment of deals, battens, boards, timbers, etc.

[Those with an asterisk (*) are advertised in this issue.]

OBITUARY.

Mr. A. C. Bulmer Booth.

Mr. Arthur Charles Bulmer Booth, A.R.I.B.A., whose death occurred on July 17 at the age of seventy, was for many years a partner in the late firm of Hudson & Booth, of Godliman-street, E.C., one of the oldest firms of architects and surveyors in the City of London. Mr. Booth was a pupil of the late Joseph Springbolt, and afterwards entered the office of the late Professor Aicheson, B.A., R.A., as assistant, where he remained until he joined Mr. William Hudson. Later Mr. Booth became a partner of the firm, with Mr. Hudson, jun., the practice being carried on under the title of Hudson, Son, & Booth until the death of Mr. William Hudson, after which it was continued by the remaining partners, and subsequently by Mr. Booth alone, at 113, Queen Victoria-street, E.C. Mr. Booth was elected an Associate of the Royal Institute of British Architects in 1881, and he was one of the oldest members of the Architectural Association, having joined that body in 1863. In the earl days of his practice he carried out a considerable amount of domestic work. Owing to the cutting of Queen Victoria-street in 1870, several of Wren's churches were interfered with b the removal of old property abutting upon them, and the firm being at that time Surveyors to the Parishes of St. Nicholas Cole Abbey, St. Benet's, Paul's Wharf, and St. Andrew by the Wardrobe, they were instructed to make the necessary alterations and improvements. A few of the most important works entrusted to the firm during the last thirty years are:—Business premises, 66, Great Titchfield-street; alterations to Lyceum Theatre; Rochester-buildings, Leadenhall-street; warehouses, 56 and 57, Upper Thames-street, E.C.; residence for Mr. E. F. Hilton, Balham; 111, High-street, Marylebone; 114 and 115, High-street, Marylebone; warehouse, Upper Thames-street, E.C.; factory for the London Liquid Carbons and Acid Gas Company; warehouse and showrooms, Upper Thames-street, for Mr. Henry O'Brien (first section); Mullens Hotel Ironmonger-lane; warehouse and offices for Messrs. Blundell, Spence, & Co., Upper Thames-street; No. 10, Clifford-street, W.; No. 8, Broadway, Ludgate-hill; addition to Paul's Bonded Warehouses, Upper Thames-street; business premises, Whitfield-street, Tottenham Court-road; showrooms and offices, Upper Thames-street, for Mr. Henry O'Brien (second section); office building, 31 and 32, Crutched-friars; Farrows Bank, No. 1, Cheapside, E.C.; alterations and additions to 111 and 113, Queen Victoria-street, E.C. Just before his death Mr. Booth had taken into partnership his chief assistant, Mr G. Morriss Viner, Licentiate R.I.B.A., and the practice will be continued by him at 113, Queen Victoria-street.

TERMS OF SUBSCRIPTION.

"THE BUILDER" (Published Weekly) is supplied DIRECT from the Office to residents in any part of the United Kingdom at the prepaid rate of 19s. per annum, with delivery *by Friday Morning's Post* in London and its suburbs.

To Canada, post-free, 21s. 8d. per annum; and to all parts of Europe, America, Australia, New Zealand, India, China, Ceylon, etc., 26s. per annum.

Remittances (payable to THE BUILDER LTD.) should be addressed to 4, Catherine-street, Aldwych, London W.C.

PRICES CURRENT OF MATERIALS.

*** Our aim in this list is to give, as far as possible, the *average* prices of materials, not necessarily the highest or lowest. Quality and quantity obviously affect prices—a fact which should be remembered by those who make use of this information.

BRICKS, &c.

Per 1000 Alongside, in River.	£ s. d.
Best Stocks	1 16 6
Picked Stocks for Facings	2 10 0

Per 1000, Delivered at Railway Depôt.

	£ s. d.		£ s. d.
Flettons	1 14 0	Best Blue Pressed Staffordshire	3 15 0
Best Fareham Red	3 12 0	Do. Bullnose	4 0 0
Best Red Pressed Ruabon Facing	5 0 0	Best Stourbridge Fire Bricks	4 0 0

BRICKS, &c. (*Continued*).

Per 1000, Delivered at Railway Depôt.

	£ s. d.		£ s. d.
GLAZED BRICKS— Best White, Ivory, and Salt Glazed Stretchers	13 0 0	Double Headers	15 10 0
		One Side and two Ends	19 10 0
Headers	12 10 0	Two Sides and one End	20 10 0
Quoins Bullnose and 4½ in. Flats	16 10 0	Splays and Squints	18 0 0
D'ble Str'tch'rs	18 10 0		

Second Quality £1 10s. per 1000 less than best.

	s. d.	
Thames and Pit Sand	7 3	per yard, delivered.
Thames Ballast	5 9	„ „
Best Portland Cement	37 0	per ton, „
Best Ground Blue Lias Lime	20 0	„ „

NOTE—The cement or lime is exclusive of the ordinary charge for sacks.

Grey Stone Lime ..... 14s. 0d. per yard, delivered.
Stourbridge Fireclay in sacks 27s. 0d. per ton, at rly. dpt.

STONE.

Per Ft. Cube.

	s. d.
BATH STONE — delivered on road waggons, Paddington Depôt	1 7½
Do. do. delivered on road waggons, Nine Elms Depôt	1 9½

PORTLAND STONE (20 ft. average)—

	s. d.
Brown Whitbed, delivered on road waggons. Paddington Depôt, Nine Elms Depôt, or Pimlico Wharf	2 4½
White Basebed, delivered on road waggons Paddington Depôt, Nine Elms Depôt, or Pimlico Wharf	2 6½

Per Ft. Cube, delivered at Railway Depôt.

	s. d.		s. d.
Ancaster in blocks..	1 10	Closeburn Red Freestone	2 0
Beer in blocks	1 6		
Greenshill in blocks	1 10	Red Mansfield Freestone	2 4
Darley Dale in blocks	2 4	Talacre & Gwespyr Stone	2 4
Red Corsehill in blocks	2 3		

YORK STONE—*Robin Hood Quality.*

Per Ft. Cube, Delivered at Railway Depôt.	s. d.
Scappled random blocks	2 10

Per Ft. Super., Delivered at Railway Depôt.

	s. d.
6 in. sawn two sides landings to sizes (under 40 ft. super.)	2 8
	2 6
6 in. rubbed two sides ditto, ditto	0 11½
3 in. sawn two sides slabs (random sizes)	0 7
2 in. to 2½ in. sawn one side slabs (random sizes)	0 6
1½ in. to 2 in. ditto, ditto	

STONE (*Continued*).

HARD YORK—

Per Ft. Cube, Delivered at Railway Depôt.	s.	d.
Scappled random blocks	3	0

Per Ft. Super., Delivered at Railway Depôt.

6 in. sawn two sides landing to sizes (under 40 ft. super.)	2	8
6 in. rubbed two sides ditto	3	0
3 in. sawn two sides slabs (random sizes)	1	2
2 in. self-faced random flags	0	5

SLATES.

Per 1000 of 1200 at Railway Depôt.

In. In.	£	s.	d.	In. In.	£	s.	d.
20 x 10 best blue Bangor	13	2	6	20 x 10 best Eureka unfading green	15	17	6
20 x 12 ditto	13	17	6	20 x 12 ditto	18	7	6
20 x 10 1st q'lity ditto	13	0	0	18 x 10 ditto	13	5	0
20 x 12 ditto	13	15	0	16 x 8 ditto	10	5	0
16 x 8 ditto	7	5	0	20 x 10 permanent green	12	12	6
22 x 10 best blue Portmadoc	12	12	6	18 x 10 ditto	10	12	6
16 x 8 ditto	6	12	6	16 x 8 ditto	7	12	6

TILES.

At Railway Depôt.

	s.	d.		s.	d.
Best plain red roofing (per 1000)	42	0	Best "Hartshill" brand, plain sand-faced (per 1000)	45	0
Hip and Valley (per doz.)	3	7	Do. pressed (per 1000)	42	6
Best Broseley (per 1000)	50	0	Do. Ornamental (per 1000)	47	6
Do. Ornamental (per 1000)	52	6	Hip (per doz.)	4	0
Hip and Valley (per doz.)	4	0	Valley (per doz)	3	6
Best Ruabon red, brown, or brindle (Edw'ds)(pr1000)	57	6	Staffords. (Hanley) Reds or Brindled (per 1000)	42	6
Do. Ornamental (per 1000)	60	0	Hand-made sand-faced (per1000)	45	0
Hip (per doz.)	4	0	Hip (per doz.)	4	0
Valley (per doz)	3	0	Valley (per doz)	3	6

WOOD

BUILDING WOOD.	At per standard.					
	£	s.	d.		£	s.	d.
Deals: best 3 in. by 11 in. and 4 in. by 9 in. and 11 in.	17	5	0	..	18	15	0
Deals: best 3 in. by 9 in.	17	5	0	..	18	5	0
Battens: best 2½ in. by 7 in. and 8 in., and 3 in. by 7 in. and 8 in.	14	12	6	..	15	12	6
Battens: best 2½ by 6 and 3 by 6	0	10	0		less than 7 in. and 8 in.		
Deals: seconds	1	0	0		less than best		
Battens: seconds	0	10	0		"		"
2 in. by 4 in. and 2 in. by 6 in.	13	5	0	..	14	5	"
2 in. by 4½ in. and 2 in. by 5 in.	12	2	6	..	13	2	
Foreign Sawn Boards— 1 in. and 1¼ in. by 7 in.	0	10	0		more than battens.		
¾ in.	1	0	0		"		
Fir timber: best middling Danzig or Memel (average specification)	At per load of 50 ft.						
	6	0	0	..	7	5	0
Seconds	5	7	6	..	6	17	6
Small timber (8 in. to 10 in.)	4	12	6	..	4	17	6
Small timber (6 in. to 8 in.)	3	17	6	..	4	5	0
Swedish balks	3	5	0	..	3	12	6
Pitch-pine timber (30 ft. average	7	10	0	..	8	10	0

JOINERS' WOOD.	At per standard.					
	£	s.	d.		£	s.	d.
White Sea: first yellow deals, 3 in. by 11 in.	29	15	0	..	31	0	0
3 in. by 9 in.	27	12	6	..	29	0	0
Battens, 2½ in. and 3 in. by 7 in.	21	5	0	..	22	5	0
Second yellow deals, 3 in. by 11 in.	24	15	0	..	25	15	0
Do. 3 in. by 9 in.	23	0	0	..	24	0	0
Battens, 2½ in. and 3 in. by 7 in.	17	5	0	..	18	5	0
Third yellow deals, 3 in. by 11 in. and 9 in.	18	5	0	..	19	5	0
Battens, 2½ in. and 3 in. by 7 in.	16	0	0	..	17	0	0
Petersburg: first yellow deals, 3 in. by 11 in.	26	10	0	..	27	10	0
Do. 3 in. by 9 in.	23	0	0	..	24	0	0
Battens	17	5	0	..	18	5	0
Second yellow deals, 3 in. by 11 in.	19	5	0	..	20	5	0
Do. 3 in. by 9 in.	18	7	6	..	19	7	6
Battens		—		..		—	
Third yellow deals, 3 in. by 11 in.	16	0	0	..	17	0	0
Do. 3 in. by 9 in.	15	10	0	..	16	10	0
Battens	13	5	0	..	14	5	0
White Sea and Petersburg— First white deals, 3 in. by 11 in.	19	5	0	..	20	5	0
First white deals, 3 in. by 9 in.	17	2	6	..	18	2	6
Battens	15	0	0	..	15	10	0
Second white deals, 3 in. by 11 in.	17	2	6	..	18	2	6
Second white deals, 3 in. by 9 in.	15	0	0	..	16	0	0
Battens	13	15	0	..	14	5	0
Pitch-pine: deals	30	15	0	..	32	15	0
Under 2 in. thick extra	0	10	0	..	1	0	0
Columbian or Oregon Pine, best quality	26	0	0	..	28	0	0
Yellow Pine—First, regular sizes	54	0	0		upwards.		
Oddments	37	0	0		"		
Seconds, regular sizes	38	10	0		"		
Oddments	33	0	0		"		
Kauri Pine—Planks per ft. cube	0	6	6	..	0	7	6
Danzig and Stettin Oak Logs— Large, per ft. cube	0	4	0	..	0	5	0
Small " "	0	3	6	..	0	4	0
Wainscot Oak Logs, per ft. cube	0	9	6	..	0	11	0

WOOD (*Continued*).

JOINERS' WOOD (*Continued*)—	£	s.	d.		£	s.	d.
Dry Wainscot Oak, per ft. super. as inch	0	0	11	..	0	1	3
¾ in. do. do.	0	0	10	..	0	0	11
Dry Mahogany — Honduras, Tabasco, per ft. super. as inch	0	0	11	..	0	1	4
Selected, Figury, per ft. super. as inch	0	1	6	..	0	2	6
Cuba Mahogany	0	1	6	..	0	2	0 upwards.
Dry Walnut, American, per ft. super. as inch	0	0	11	..	0	1	3
French, "Italian," Walnut	0	0	11	..	0	1	6
Teak, per load (Rangoon or Moulmein)	28	0	0	..	34	0	0
Do., do. (Java)	24	0	0	..	27	0	0
American Whitewood planks, per ft. cube	0	6	6	..	0	7	6
Prepared Flooring, etc.—	Per square.						
1 in. by 7 in. yellow, planed and shot	0	15	6	..	0	18	0
1 in. by 7 in. yellow, planed and matched	0	16	0	..	0	19	0
1¼ in. by 7 in. yellow, planed and matched	0	18	6	..	1	3	0
1 in. by 7 in. white, planed and shot	0	15	0	..	0	17	0
1 in. by 7 in. white, planed and matched	0	15	6	..	0	17	6
1¼ in. by 7 in. white, planed and matched	0	17	6	..	0	19	6
¾ in. by 7 in. yellow, matched and beaded or V-jointed boards	0	13	6	..	0	16	0
1 in. by 7 in. " "	0	16	0	..	0	19	6
¾ in. by 7 in. white " "	0	13	0	..	0	15	0
1 in. by 7 in. " "	0	15	6	..	0	16	6

6 in. at 6d. to 9d. per square less than 7 in.

JOISTS, GIRDERS, &c.

	In London or delivered Railway Vans, per ton.						
	£	s.	d.		£	s.	d.
Rolled Steel Joists, ordinary sections	9	10	0	..	10	10	0
Compound Girders, ordinary sections	12	0	0	..	13	0	0
Steel Compound Stanchions	13	0	0	..	15	0	0
Angles, Tees, and Channels, ordinary sections	12	0	0	..	13	0	0
Flitch Plates	12	0	0	..	13	0	0
Cast Iron Columns & Stanchions, including ordinary † patterns	9	0	0	..	10	0	0

METALS.

	Per ton, in London.						
IRON—	£	s.	d.		£	s.	d.
Common Bars	9	0	0	..	9	10	0
Staffordshire Crown Bars, good merchant quality	9	5	0	..	9	15	0
Staffordshire "Marked Bars"	11	0	0	..		—	
Mild Steel Bars	9	5	0	..	9	15	0
Hoop Iron, basis price	10	0	0	..		—	
" Galvanised	17	10	0	..		—	

(* And upwards, according to size and gauge.)

Sheet Iron Black— Ordinary sizes to 20 g.	10	5	0	..		—	
" " 24 g.	11	5	0	..		—	
" " 26 g.	12	15	0	..		—	
Sheet Iron, Galvanised, flat, ordinary quality— Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 20 g.	15	10	0	..		—	
Ordinary sizes to 22 g. and 24 g.	16	0	0	..		—	
Ordinary sizes to 26 g.	17	0	0	..		—	
Sheet Iron, Galvanised, flat, best quality— Ordinary sizes to 20 g.	18	10	0	..		—	
" " 22 g. and 24 g.	19	0	0	..		—	
Ordinary sizes to 26 g.	20	10	0	..		—	
Galvanised Corrugated Sheets— Ordinary sizes, 6 ft. to 8 ft. 20 g.	15	0	0	..		—	
Ordinary sizes, 22 g. and 24 g.	15	5	0	..		—	
Ordinary sizes, 26 g.	16	15	0	..		—	
Best Soft Steel Sheets, 6 ft. by 2 ft. to 3 ft. to 20 g. and thicker	12	10	0	..		—	
Best Soft Steel Sheets, 22 g. & 24 g.	13	10	0	..		—	
Best Soft Steel Sheets, 26 g.	15	10	0	..		—	
Cut Nails, 3 in. to 6 in.	11	0	0	..	11	10	0

(Under 3 in., usual trade extras.)

LEAD, &c.

Delivered in London.

	£	s.	d.		
LEAD—Sheet, English, 4 lb. and up	29	0	0	..	—
Pipe in coils	29	10	0	..	—
Soil pipe	32	10	0	..	—
Compo pipe	32	10	0	..	—
ZINC—Sheet—	In casks of 10 cwt.				
Vielle Montagne	42	0	0	..	—
Silesian	42	0	0	..	—

Zinc, in bundles, 1s. per cwt. extra.

COPPER— Strong Sheet per lb.	0	1	2	..	—
Thin " "	0	1	3	..	—
Copper nails "	0	1	2	..	—
Copper wire "	0	1	2	..	—
BRASS— Strong Sheet "	0	1	2	..	—
Thin "	0	1	3	..	—
TIN—English Ingots "	0	1	8	..	—
SOLDER—Plumbers' "	0	0	9	..	—
Tinmen's "	0	1	0	..	—
Blowpipe "	0	1	3	..	—

ENGLISH SHEET GLASS IN CRATES OF STOCK SIZES.*

	Per Ft. Delivered.		
15 oz. thirds	2¼d.	26 oz. fourths	4d.
" fourths	2¼d.	32 oz. thirds	5¼d.
21 oz. thirds	3¼d.	" fourths	4¼d.
" fourths	3¼d.	Fluted Sheet, 15 oz.	3¼d.
26 oz. thirds	4¼d.	" 21 oz.	4¼d.

ENGLISH ROLLED PLATE IN CRATES OF STOCK SIZES.*

Per Ft. Delivered.

¼ Rolled plate	2¼d.
5/16 Rough rolled and rough cast plate	3d.
⅜ Rough rolled and rough cast plate	3¼d.
Figured Rolled, Oxford Rolled, Oceanic, Arctic, Muffled, and Rolled Cathedral, white	3¼d.
Ditto, tinted	5¼d.

* Not less than two crates.

OILS, &c.		£	s.	d.
Raw Linseed Oil in pipes	per gallon	0	2	5
" " " in barrels	"	0	2	6
" " " in drums	"	0	2	8
Boiled " " in barrels	"	0	2	8
" " " in drums	"	0	2	10
Turpentine in barrels	"	0	3	2
" in drums	"	0	3	4
Genuine Ground English White Lead, per ton (In not less than 5 cwt. casks.)		34	0	0
Red Lead, Dry	per ton	32	5	0
Best Linseed Oil Putty	per cwt.	0	10	0
Stockholm Tar	per barrel	1	12	0

VARNISHES, &c.	Per gallon. £	s.	d.
Fine Pale Oak Varnish	0	8	0
Pale Copal Oak	0	10	6
Superfine Pale Elastic Oak	0	12	6
Fine Extra Hard Church Oak	0	10	0
Superfine Hard-drying Oak, for seats of Churches	0	14	6
Fine Elastic Carriage	0	12	9
Superfine Pale Elastic Carriage	0	16	0
Fine Pale Maple	0	10	0
Finest Pale Durable Copal	0	18	6
Extra Pale French Oil	1	1	0
Eggshell Flating Varnish	0	18	0
White Pale Enamel	1	4	0
Extra Pale Paper	0	12	0
Best Japan Gold Size	0	10	0
Best Black Japan	0	16	0
Oak and Mahogany Stain	0	9	0
Brunswick Black	0	8	0
Berlin Black	0	16	0
Knotting	0	10	6
French and Brush Polish	0	10	0

[Owing to the exceptional circumstances which prevail at the present time, prices of materials should be confirmed by inquiry.]

TO CORRESPONDENTS.

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N.B.—Illustrations of the First Premiated Design in any important architectural competition will always be accepted for publication by the Editor, whether they have been formally asked for or not.

TENDERS.

Communications for insertion under this heading should be addressed to "The Editor," and must reach us *not later than 6 p.m. on Wednesday.* [N.B.—We cannot publish Tenders unless authenticated either by the architect or the building owner; and we cannot publish announcements of Tenders accepted unless the amount of the Tender is stated, nor any list in which the lowest Tender is under 100*l.* unless in some exceptional cases and for special reasons.]

*** Denotes *accepted.* † Denotes *provisionally accepted.***

ABERDEEN.—For various works for fish-market in Commercial-road, for the Corporation:—

Mason: A. Cheyne, 97, Holburn-street*	£935 0 0
Carpenter: G. Lyall, jun., South Esplanade West*	515 16 2
Plumber: J. Dean, 32, Queen-street*	129 17 6
Slater: G. Farquhar, 66, Union-row*	68 10 0
Painter: J. S. McLaren, 112, Rosemount-viaduct*	48 0 0

ARNOLD.—For works in connection with the widening of Nottingham-road, for the Arnold Urban District Council:—

A. & C. Raynor	£1,859 7 7	J. Herring & Son, Ltd., High-street, Arnold*	£1,736 19 3
E. Somerfield	1,837 0 0		
G. Belshaw	1,810 0 0		
A. Wayte & Son	1,765 0 0		

BATH.—Erection of drill-hall and offices, for the Somerset Territorial Association:—

R. Wilkins	£6,754 0	Hayward & Wooster	£5,983 0
T. Stockham	6,663 0	J. Long & Sons	5,940 0
H. Pittard & Son	6,223 0	E. Chancellor & Sons, Bath*	5,935 0
Coles Bros.	6,200 0		
Wills & Son	6,108 0		
R. Blackmore	6,096 8		

CHINGFORD.—Making up Ainsley Wood and part of Gordon roads, for the Urban District Council :—

E. Betts	£1,352	0	0	W. & G. French, Buckhurst Hill*	£990	0
T. Adams	1,234	2	3			
G. Porter	1,115	16	7			
W. Manders & Co.	1,084	19	6			

DEWSBURY.—Installation of hot-water at Hospital of the Dewsbury Joint Hospital Board :—

Milan, Huddersfield* £180

DODDINGTON.—For summer repairs to Council school, for Kent Education Committee. Mr. W. H. Robinson, M.S.A., Architect, Sessions House, Maidstone :—

G. Johnson & Son	£98 0 0
J. J. Woolaston	97 6 6
G. G. Culmer, Faversham†	92 0 0

DUBLIN.—Extension of the dental hospital, Lincoln-place, Dublin :—

J. & R. Thompson	£3,510 0	Collen Bros.	£3,090 0
R.E Mellon & Son	3,285 0	J. & P. Good	3,080 0
W. Beckett & Son	3,147 0	S.H. Bolton & Sons	2,999 0
G. & T. Crampton	3,140 0	J. Pemberton & Son	2,880 10
A. Frazer & Co.	3,096 0	H. & J. Martin*	2,787 0

DURHAM.—For reconstructing sewers at High Pittington, for the Rural District Council :—

R. Oliver ..... £157 2 7 | J. Carrick* £153 12 6

ERITH.—For erection of a public elementary school at Lower-road, Belverdere, for the Urban District Council. Mr. Harold Hind, Surveyor to the Erith Urban District Council. Quantities by Surveyor :—

J. W. Ellingham	£9,169 10
L. Kazak	9,169 0
Friday & Ling	8,974 0
G. H. Gunning & Sons, Erith*	8,749 0

FARNBOROUGH PARK.—For bungalow, for Mr. T. W. K. Clarke. Mr. A. H. Dungay, architect :—

J. B. Seward	£827	0	0	H. Love & Co.	£524 0 0
E. Ewins	678	10	0	W. Bundey, Farnborough*	522 0 0
T. G. Smith	616	0	0	Jones Bros.‡	518 0 0
W. W. King	600	0	0		
Hoskins & Jacob	532	18	6		

‡ Received too late for inclusion.

HASTINGS.—For erecting screw pile and girder extension of the Parade, for the Town Council :—

Braithwaite & Kirk, 36, Lime-street, London* £16,000

HENDON.—Construction of surface water sewer at Edgware, for the Hendon Rural District Council :—

A. Worcester* £663 9

HENDON.—Construction of concrete invert at the River Pinn, for the Hendon Rural District Council :—

A. Worcester* £242 18 10

HENDON.—Extension of soil and surface water sewer at Pinner View, for the Hendon Rural District Council :—

Dodd, Hendon* £167 15

HORSHAM.—For erection of a proposed Council school on a site in Oxford-road. Quantities by Mr. Haydn P. Roberts, County Education Architect, Thurloe House, High-street, Worthing :—

Cropley Bros., Ltd.	£6,944 0 0
H. Lingfield & Sons	6,890 0 0
J. Barnes & Sons	6,408 0 0
Crosby & Co., Ltd.	6,275 0 0
Reeves & Port	6,260 0 0
J. Longley & Co.	6,248 0 0
A. Crane	6,231 9 0
A. Peskett & Co.	6,195 0 0
Murrell Bros.	6,104 11 3
Rowland Bros.	6,099 0 0
W. Willett	6,079 9 6
R. Cook & Sons	5,995 0 0
F. Sandell & Sons	5,900 0 0
W. F. Sendall & Co.	5,677 5 7
H. Baker & Son	5,625 0 0
G. Potter, Horsham*	5,590 0 0
G. Potter (revised tender)	5,408 0 0

LONDON.—For alterations and decorations, etc., at 48, Compayne-gardens, Hampstead, for Mr. W. B. Ferguson, K.C. Mr. E. J. Gairdener, architect, Effingham House, Arundel-street, Strand. Quantities by Messrs. Fleetwood, Eversden, & King, 3, New-court, Lincoln's Inn :—

Tredegar & Co., £901; including tiling, etc., £956.
Senecal & Co., £895; including tiling, etc., £950 10s.
Thompson & Beveridge, £747; including tiling, etc., £810.
Rice & Son, £713*; including tiling, etc., £769.

MATLOCK.—For main sewerage works, for the Urban District Council :—

J. W. Wildgoose, Matlock* £25,215

ROCHFORD.—For erection of four cottages at Great Stambridge, Rochford, for the Rural District Council of Rochford. Mr. A. C. Madge, Surveyor, Rochford :—

F. J. Cook	£790	Myall Bros., South-end-on-Sea*	£750
S. Porden	781		

SAFFRON WALDEN.—Alterations and additions to the hospital of the Saffron Walden Joint Hospital Board :—

Harris Bros.	£4,157 0	D. Robinson	£3,465 16
W. Bell & Sons	3,957 0	J. Custerson	3,437 0
J. L. Glasscock & Sons	3,725 0	Kidman & Sons	3,293 0
F. W. Jarvis	3,699 0	Rooke & Sons, Trinity Works, Cambridge*	3,190 0
Parren & Son	3,584 0		

SLEAFORD.—For water works at South Kyne, for the Sleaford Rural District Council :—

J. T. Barnes, Sleaford* £1,030

STEDHAM.—For alterations and additions to the Stedham Council School. Mr. Haydn P. Roberts, County Education Architect, Thurloe House, High-street, Worthing :—

F. Sandell & Sons	£570 0 0
J. Boxall	503 0 0
H. C. Deane & Son	450 0 0
H. Tribe & Sons	416 18 6
G. Luff, Midhurst*	435 0 0

WARRINGTON.—For erection of convenience in Lovely-lane and Howard-place, for the Corporation :—

J. Broadhurst & Sons* { Lovely-lane ..... £105 ; Howard-place 300

WEST WARD.—For waterworks scheme, for the West Ward Rural District Council :—

Contract No. 1.
G. P. Trentham, Ltd.* £10,939 16 3

Contract No. 2.
G. P. Trentham, Ltd.* £2,888 1 0

Contract No. 3.
Crawford Bros.* £19,564 7 3

Contract No. 4.
Crawford Bros.* £884 18 0

WOLVERHAMPTON. — New stabling and other buildings at Barnhurst Farm, for the Corporation :—

Roe, Wolverhampton* £565

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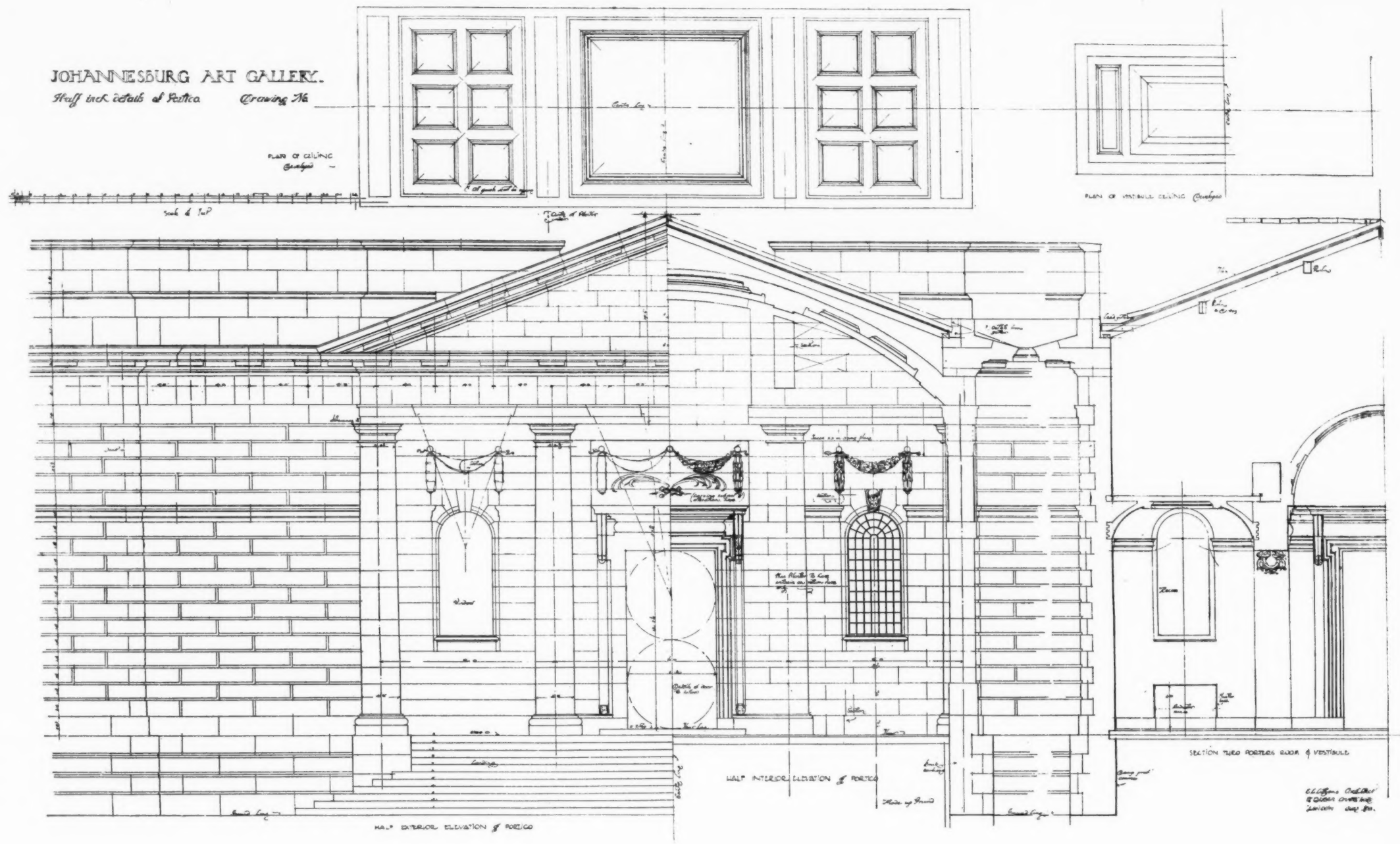
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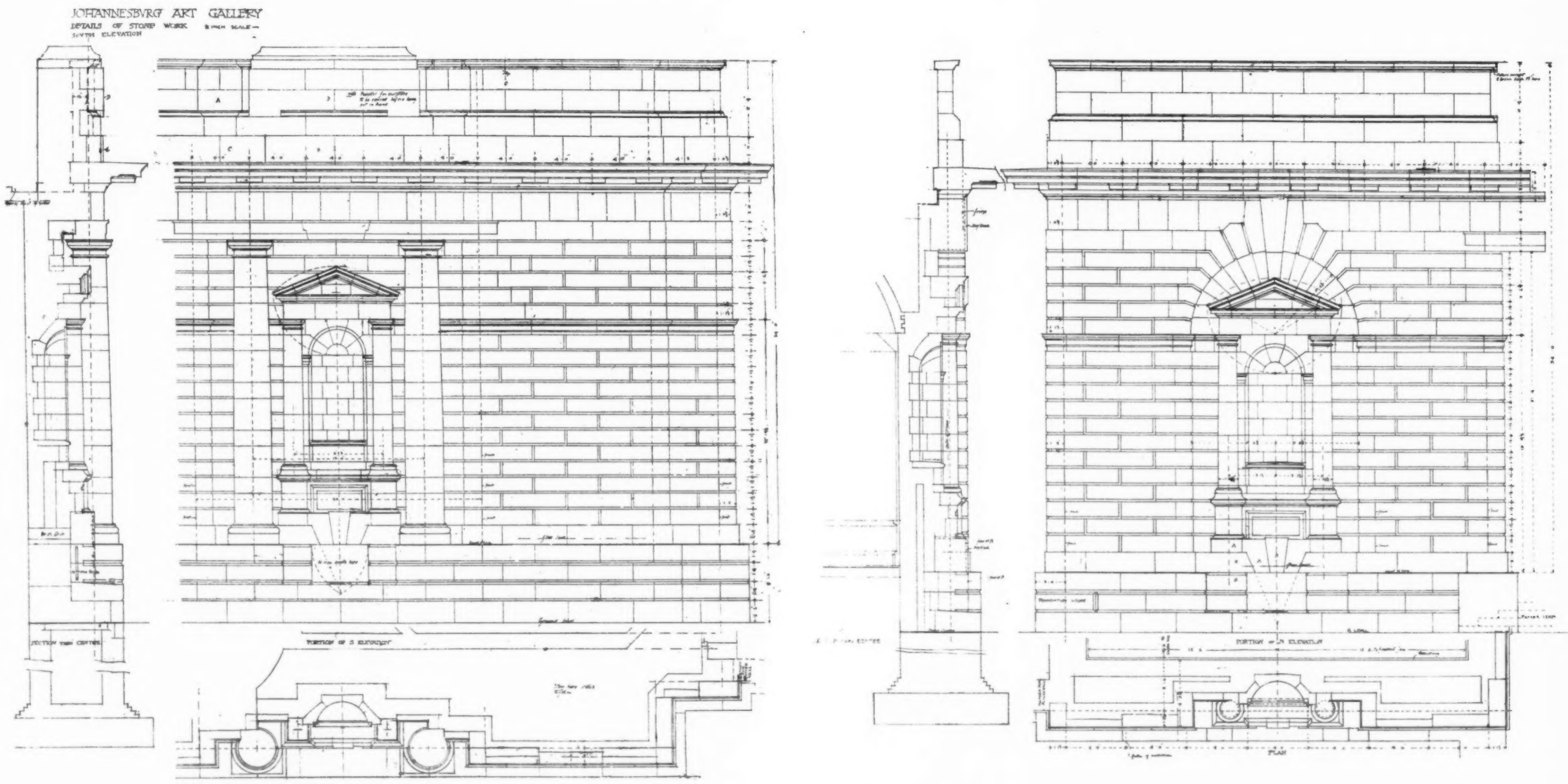

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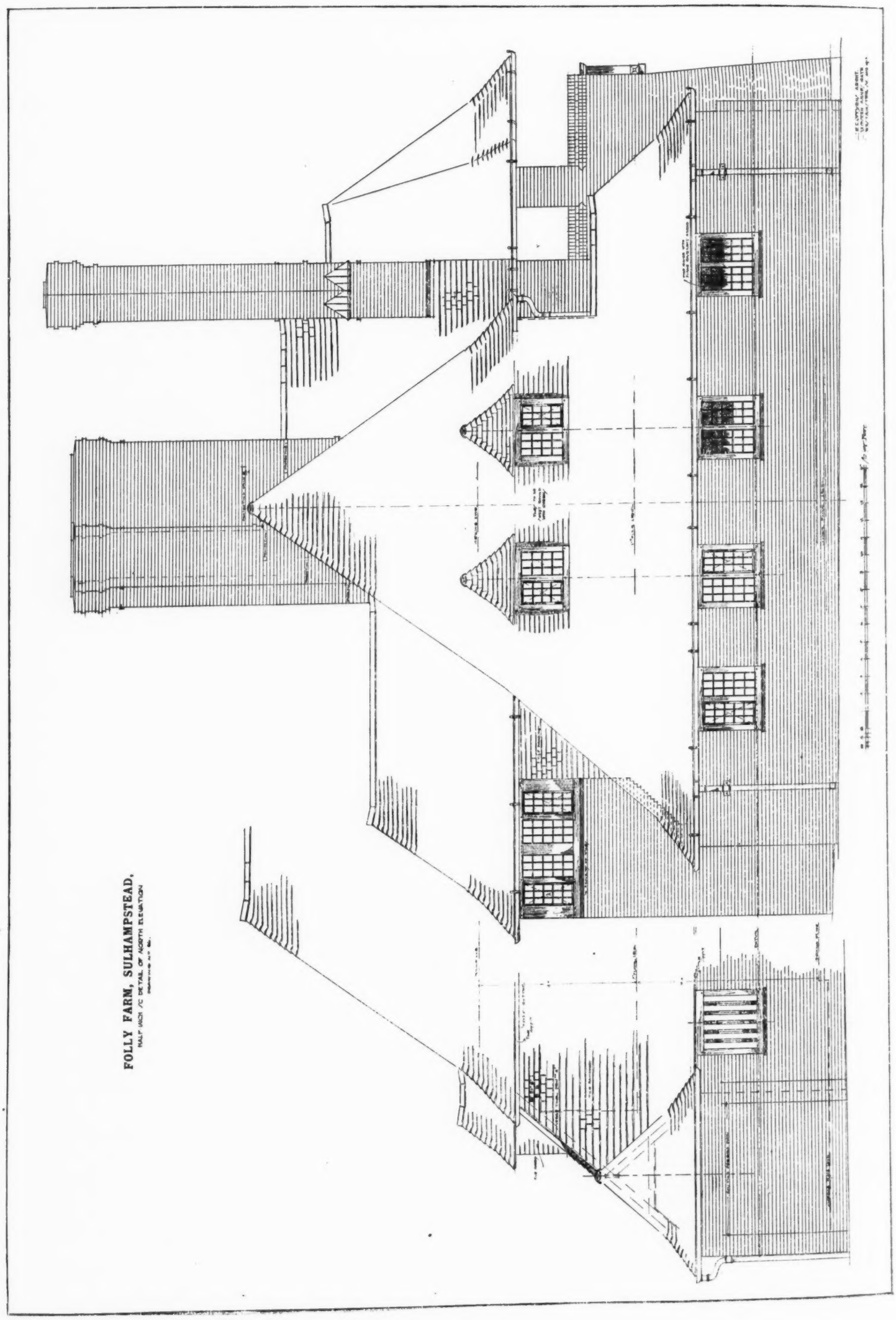
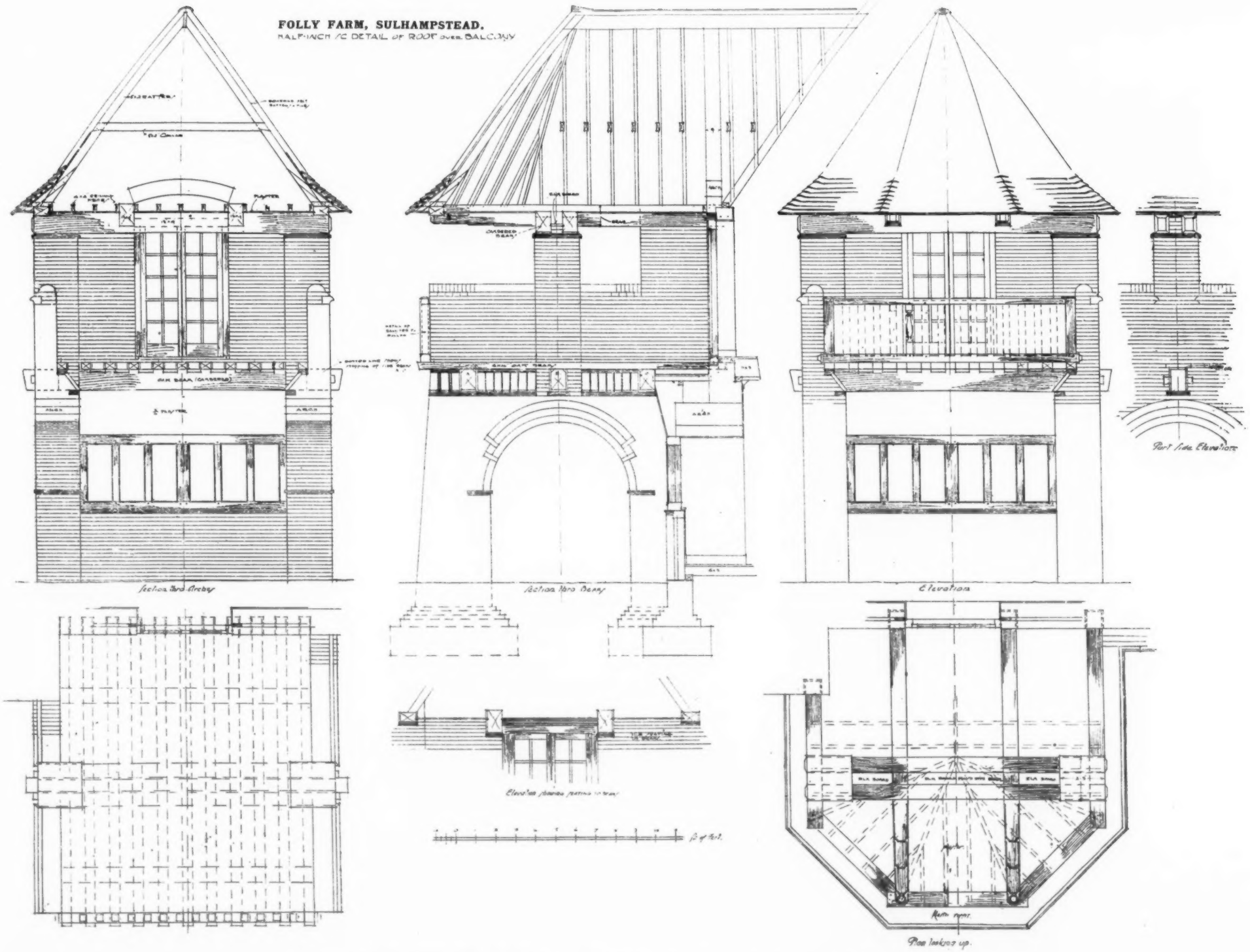


FOLLY FARM, SULHAMPSTEAD,
HALF INCH /1' DETAIL OF NORTH ELEVATION

FOLLY FARM, SULHAMPSTEAD: DETAILS.—Mr. Edwin L. Lutyens, A.R.A., Architect.

FOLLY FARM, SULHAMPSTEAD.

HALF-INCH SCALE DETAIL OF ROOF over BALCONY



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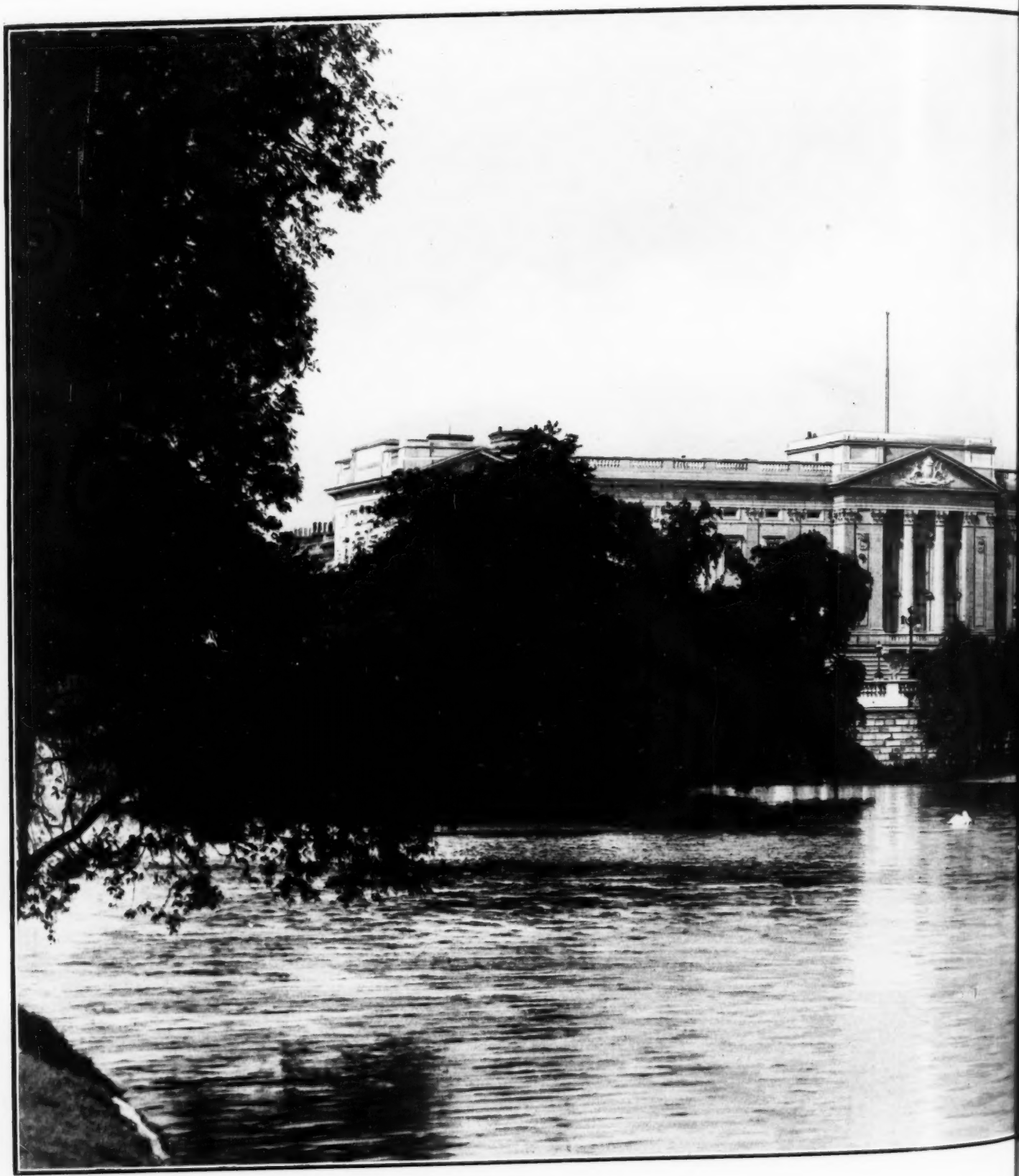
THE NEW FRONT, BUCKINGHAM PALACE.—SIR ASTON

[*Photo: Bedford Lemere.*

CE.—Sir Aston Webb, C.B., K.C.V.O., R.A., Architect.



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